



# INSTRUMENT ASSIGNMENT

**Note: Incomplete forms will not be processed. All Assignment fees are Non-refundable.**

For and in consideration of the full sale price of \$ Twenty (\$20.00) dollars paid for the instrument, improvements and/or personal property, with the amount of \$ none additional dollars, paid for the improvements and/or personal property, receipt of which is hereby acknowledged. We hereby sell, assign and transfer, all of my/our rights, title and interest in State of Idaho Instrument No. LU600029 Kom #1-22 unto the following:

**Individual or Family Trust Name:**  
Last \_\_\_\_\_  
First \_\_\_\_\_  
Middle \_\_\_\_\_  
DBA: \_\_\_\_\_

**Business or Entity Name:**  
Alta Mesa Services, LP  
**Business or Entity Registration No. (or proof of pending application)**  
L6666

### ADDRESS OF RECORD (FOR ALL CORRESPONDENCE) AND CONTACT INFORMATION

**Street:** 15021 Katy Frwy., Suite 400  
**PO Box:** \_\_\_\_\_  
**City:** Houston  
**State:** Texas  
**Zip +4:** 77094  
**Country:** USA  
**Attention:** Dale R. Hayes  
**Title:** Vice President - Operations

**Business:** Alta Mesa Services, LP  
**Contact Name:** Dale R. Hayes  
**Fax:** 281-944-0106  
**Contact Name:** Dale R. Hayes  
**Home:** \_\_\_\_\_  
**Contact Name:** \_\_\_\_\_  
**Cell Area Code/Phone#:** \_\_\_\_\_  
**Contact Name:** \_\_\_\_\_  
**Email Address(es):** dhayes@altamesa.net

- Assign Encroachment (Attachment A not required).
- Assign an interest in all lands within Instrument (Attachment A not required).
- Assign an interest in only part of the lands in the Instrument. (Attachment A required for lands remaining and lands being removed)

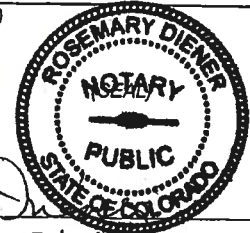
### ACCEPTANCE AND ASSUMPTION BY ASSIGNOR

I / We hereby swear and affirm that the consideration stated herein is the full and complete amount paid by the assignees to the assignors for the above-described State of Idaho Instrument, and no additional payment has been or will be made.

Date 6/20/12  
N J CLAYTON CEO  
Current Instrument Holder/Designated Agent  
N Clayton  
Current Instrument Holder/Designated Agent

Bridge Energy  
Company Name (if applicable)  
Company Name (if applicable)

STATE OF Colorado  
County of Denver ss.



Subscribed and sworn to before me this 20 day of June, 2012

Rosemary Diener  
Notary Public  
My Commission Expires: 10/21/12 My Commission Expires Oct 21 2012

### ACCEPTANCE AND ASSUMPTION BY ASSIGNEE

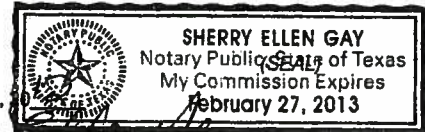
The undersigned, as Assignee(s) above-named, assumes and accepts the obligations and conditions of the above-described State of Idaho instrument and separately covenants with the State of Idaho that they will abide thereby during the term of said instrument. Assignee(s) does hereby swear and affirm that the sum of \$ \_\_\_\_\_ is the full and complete amount of consideration paid by Assignee(s) to the Assignor(s) herein, and that no additional payment has been or will be made.

Date 06/19/2012  
Dale R. Hayes - V.P. Ops.  
New Instrument Holder/Designated Agent  
Dale R. Hayes  
New Instrument Holder/Designated Agent

Alta Mesa Services, LP  
Company Name (if applicable)  
Company Name (if applicable)

STATE OF Texas  
County of Harris ss.

Subscribed and sworn to before me this 20<sup>th</sup> day of June



Sherry Ellen Gay  
Notary Public  
My Commission Expires: 2-27-13



LU600029

**BUREAU OF SURFACE AND  
MINERAL RESOURCES**  
300 North 6<sup>th</sup> Street Suite 103  
PO Box 83720  
Boise ID 83720-0050  
Phone (208) 334-0200  
Fax (208) 334-3698



GEORGE B. BACON, DIRECTOR  
EQUAL OPPORTUNITY EMPLOYER

**STATE BOARD OF LAND COMMISSIONERS**

C. L. "Butch" Otter, Governor  
Ben Ysursa, Secretary of State  
Lawrence G. Wasden, Attorney General  
Donna M. Jones, State Controller  
Tom Luna, Sup't of Public Instruction

Hand Delivered  
August 25, 2010

Jeff Kirn  
Bridge Energy, Inc.  
c/o Ryan V. Morgan  
Centra Consulting  
413 West Idaho Street  
Suite 302  
Boise, Idaho

Assigned to Alta Mesa Services, Inc.  
of 15021 Katy Fwy, Suite 400  
Houston TX 77054  
Recorded July 5, 2012

SUBJECT: Permit to Drill LU600029 (API#11-075-20014, Korn #1-22 on State Lease O-01986)

The Idaho Department of Lands has completed our review of this permit to drill for oil and gas. Enclosed is a copy of the approved permit. This permit was approved with the following stipulations:

1. The permittee shall be required to submit an affidavit covering the initial BOP pressure test after installation signed by the operator or contractor attesting to the satisfactory pressure test.
2. The permittee shall ensure mud pits are adequately sized, designed and constructed for the reception and confinement of mud and cuttings and to prevent contamination of streams and potable water.
3. Drilled holes cannot be used for any other purposes unless they are constructed according to the applicable well construction standards administered by the Idaho Department of Water Resources.
4. Multiple zone completion has not been requested, and must be applied for separately, as required by IDAPA 20.07.02.220.
5. If a full length annular seal will not be installed in the 5½ inch casing, then the following information, in addition to any that may be required by IDAPA 20.07.02.220, must be submitted to the Idaho Department of Lands prior to finishing the well:
  - a. Identification of which zones will be sealed off and which zones will remain open
  - b. Criteria used to determine which zones are sealed or left open
  - c. How the cementing plan will prevent commingling of aquifers that have different temperatures, pressures, and other qualities

This is to certify that this is a true and correct copy of this document, the original of which is on file with the Idaho Department of Lands (IDL).

[Signature] 7/10/12  
IDL Representative Date

6. No secondary recovery efforts have been applied for, and Class II injection wells for injecting brines and other fluids to aid oil and gas production may not be permitted.
7. Non-productive wells must be decommissioned prior to drilling the next hole.
8. Temperature readings must be periodically taken to insure that the correct cement is used. Temperature readings must be logged and submitted with other well information after hole completion.
9. Applicant will obtain necessary water rights from Idaho Department of Water Resources if nearby wells will be used to supply water for the drilling operations.
10. The Exploration Permit required by IDAPA 20.03.16 will be obtained prior to drilling.

Please ensure that all operations are conducted in accordance with the requirements of IDAPA 20.07.02 (Rules Governing Conservation Of Crude Oil And Natural Gas In The State Of Idaho).

This permit will be administered by Nancy Welbaum in our Southwest Supervisory Area. She will be inspecting the drilling operation, and may be accompanied by our contractor assisting with inspections. Please contact her at 208-334-3488 if you have any questions.

Sincerely,



Eric Wilson  
Navigable Waters/Minerals Program Manager

cc: Nancy Welbaum  
Chad Hersley, IDWR, PO Box 83720, Boise, Idaho 83720-0098

Revised

LU600029  
API# 11-075-2004



IDAHO OIL AND GAS CONSERVATION COMMISSION

Application For Permit to Drill, Deepen or Plug Back

APPLICATION TO: Drill  Deepen  Plug Back

NAME OF COMPANY OR OPERATOR: Bridge Energy, Inc. Date: 6/23/2010

Address: 1580 Lincoln Street, Suite 1110

City: Denver State: CO Zip Code: 80203 Telephone: (303)831-9022

Distance, in miles, and direction from nearest town or post office: Approximately 1.8 miles southeast of New Plymouth, ID

DESCRIPTION OF WELL AND LEASE

Name of Lease: State Lease O-01986 (Korn) Well Number: #1-22 Elevation (ground) 2358.71'

Well Location: Section: 22 Township: 7N Range: 4W (or block and survey)

(give footage from section lines): 607' FNL 2109' FWL (NE 1/4 NW 1/4)

Field and Reservoir (if wildcat, so state): Hamilton County: Payette

Nearest distance from proposed location to property or lease line: 507 feet

Distance from proposed location to nearest drilling, completed or applied for on the same lease: N/A feet

Proposed depth: 2,500 ft Rotary or cable tools: Rotary

Approx date work will start: August 11, 2010 Number of acres in lease: 600 acres

Number of wells on lease, including this well, completed in or drilling to this reservoir: 1

If lease purchased with one or more wells drilled, complete the following information:

Purchased from (name) N/A

Address of above N/A

Status of bond N/A

Remarks: (If this is an application to deepen or plug back, briefly describe work to be done, giving present producing zone and expected new producing zone) Survey plats and drilling prognosis are attached.

State of Idaho Lease # O-01986 . Lease Description: Sec. 22: N2NE, SWNE, NW, S2, 7N-4W.

CERTIFICATE: I, the undersigned, state that I am the Consultant of Bridge Energy, Inc. (company) and that I am authorized by said company to make this application and that this application was prepared under my supervision and direction and that the facts stated herein are true, correct and complete to the best of my knowledge.

Date: 8/13/10 Signature: [Signature]

Permit Number: LU600029 Approval Date: 8/29/10 Approved by: [Signature]

NOTICE: Before sending in this form, be sure that you have given all information requested. See instructions on back.

RECEIVED

AUG 13 2010

SOUTHWESTERN IDAHO AREA DEPARTMENT OF LANDS

**DRILLING PROGNOSIS**  
**BRIDGE ENERGY, LLC**  
**Korn State #1-22 (Hamilton Prospect)**  
**NE/4 NW/4 of Section 22-Township 7N-Range 4W**  
**Payette County, Idaho**

July 16, 2010

**GENERAL**

**NOTE:** This well is to be drilled as a tight hole. Unauthorized personnel are not to be allowed on the rig floor, and all information is to be kept confidential.

**Surface Location:** 607' FNL and 507.84' FEL (NENW), Section 22-T7N-R4W

**Bottomhole Location:** Same

**Proposed TD/Objective:** ~1900 ft /Tertiary Sands  
 TD 2500'

**Elevation:** 2,359' GL (ungraded); 2,377' KB (estimated).

**Drilling Rig:** WHS Razorback.

**MECHANICAL**

**Casing Design:**

<u>SIZE</u>	<u>INTERVAL</u>	<u>LENGTH</u>	<u>DESCRIPTION</u>	<u>SFt</u>	<u>SFc</u>	<u>SFb</u>
16"	0' - 82'	82'	Conductor (0.219" WT)	--	--	--
9-5/8"	0' - 600+	600+	36#, J-55, STC	21.9	8.18	7.04
5-1/2"	0' - 2500'	2,500'	17#, J-55, STC	2.69	1.60	1.91
2-7/8"	0' - 2500'	2,500'	6.5#, J-55, EUE	3.16	3.05	1.45

**NOTE:** If mud weight exceeds 10.0 ppg at TD, casing design may be altered. Clean and drift all strings of casing prior to running. Remove all thread sealant (Kindex) prior to running. Unload production casing and tubing strings with a forklift.

**CEMENT**

<u>CASING/HOLE SIZE</u> <u>YIELD</u>	<u>CEMENT SLURRY</u>	<u>SX</u>	<u>PPG</u>
16" - 24"	Cement to surface with 4 yds Redi-mix.		
9-5/8" - 12-1/4"	Lead: Premium Light cement + 2% CaCl <sub>2</sub> + 1/4 pps flocele	100	12.0
2.27	Tail: Class G + 2% CaCl <sub>2</sub> + 1/4 pps flocele	100	15.8
1.15			

**NOTE:** Precede cement with 50 bbl fresh water. Have 100 sx neat cement and one-inch tubing on location for topping-off. Cement volume has been calculated assuming 100% excess.

**CASING/HOLE SIZE  
YIELD**

**CEMENT SLURRY**

**SX    PPG**

5 1/2" – 8 3/4"

Class G cement containing fluid  
loss additive, bonding agent,  
and retarder as required.

300    15.8    1.15

**NOTE:** Prior to cementing, slowly lower mud viscosity to 35-sec funnel viscosity. Circulate hole for 1 hour at this viscosity prior to cementing. Precede cement with 1000 gal mud flush and 30 bbl fresh water spacer. Cement top contingent upon the presence of potentially productive intervals. Actual cement volume to be determined from caliper log. Run pilot tests on proposed cement with actual make-up water. Cement design may be altered depending on actual bottomhole temperatures and the presence of lost circulation. Do not move the casing (under any circumstances) while setting the casing slips.

**CEMENTING ACCESSORIES**

- Surface Casing:
- 1) Guide shoe with insert float located one joint above shoe.
  - 2) Top wiper plug (rubber).
  - 3) Centralizer with stop ring in middle of shoe joint.
  - 4) Centralizers over collars on first three connections, omitting float collar.
  - 5) Use a total of five centralizers.
- Production Casing:
- 1) Differential-fill float collar located one joint above differential-fill float shoe.
  - 2) Top and bottom wiper plug.
  - 3) Centralizer with stop-ring in the middle of shoe joint.
  - 4) Centralize through and 100' on either side of potentially productive intervals. Run at least 12 centralizers.
  - 5) Thread-lock all connections through float collar and use API casing dope on all remaining connections.
  - 6) Stage cementing tool may be run to ensure placement of cement across any productive intervals and fresh water sands.
  - 7) Centralize above and below stage cementing tool (if run).

**WELLHEAD**

Casing Head: 9-5/8" x 11" x 3,000 psi WP flanged casing head with two-2" LP outlets. Outlets equipped with one-2" 3,000 psi WP ball valve, and one-2" x 3,000 psi WP bull plug on the outlets.

Tubing Head: 11" x 7-1/16" x 3,000 psi WP tubing head with two-2" LP threaded outlets.  
Outlets  
to be equipped with 2" x 3,000 psi WP ball valves.

Upper Half: To be determined.

**MUD PROGRAM**

<u>INTERVAL</u>	<u>WEIGHT (PPG)</u>	<u>VISCOSITY (SEC)</u>	<u>WL (CCS)</u>
0' - 600+'	8.5 - 9.0 ppg	30 - 45 sec	NC

Spud well with fresh water viscosified with Pac Regular. Circulate reserve pit to maintain clear water at the pump suction. Addition of lime and/or a selective flocculant may be made at the flowline to promote solids settling in the reserve pit. Keep hole full and drill pipe moving at all times. Sweep hole with Super Sweep to insure the hole is clean prior to running surface casing.

<u>INTERVAL</u>	<u>WEIGHT (PPG)</u>	<u>VISCOSITY (SEC)</u>	<u>WL (CCS)</u>
600+' - 2500'	8.5 - 9.8 ppg	28 - 34 sec	10 ccs or less

After drilling our surface casing shoe, displace to Synthetic Base Mud, SBM. Reference SBM program for specific maintenance, product concentrations, and mud treatment.

Keep hole full at all times. Monitor pit volume constantly as lost circulation and water flows should be expected at all times. Sweep hole as dictated by hole conditions.

Deviation tendencies in this area should not be severe; however, prudent drilling practices should be adhered to at all times. Surveys should be run at  $\pm 500$  ft intervals, unless otherwise indicated.

**WELL CONTROL EQUIPMENT**

<u>INTERVAL</u>	<u>EQUIPMENT</u>
0' - 600+'	None
600+' - 2500'	11" x 3,000 psi WP double-gate BOP with blind and 4-1/2" pipe rams. Rig should be equipped with upper and lower kelly cocks, as well as stabbing valve (have wrench available at all times). BOP equipment will be tested after nipple-up and every 30 days thereafter. (Notify Idaho State field representative prior to testing). Close pipe rams daily and blind rams on trips, recording results on tour sheets.

**GEOLOGICAL**

Geologist/Mud Logger: Geologist and mud logger with hotwire and chromatograph to be on location to from base of surface casing to TD. Notify prior to spud and after setting surface casing.

Electric Logging: DIL-SFL-SP and BHC Sonic-GR-CAL to be run in tandem from base of surface casing to TD. LDT-CNL-GR-CAL may be run at the geologist's discretion.

**GEOLOGICAL (Continued)**

Formation Tops: Assumes KB elevation of 2,377 ft.

<u>FORMATION</u>	<u>DRILL DEPTH</u>	<u>SUB SEA</u>
Idaho Group Sands	Surface	+ 2,377'
Pro Delta Shale	572'	+ 1,805'
Hamilton Sands	1,901'	+ 476'
Total Depth	2,500'	- 123'

**MISCELLANEOUS**

1. Pump carbide lag prior to running surface casing and prior to drilling out shoe. Pump efficiencies will be calculated from this information. Run frequent carbide lags while drilling to determine degree of hole washout.
2. Monitor mud hydraulics closely. An in-gauge hole is extremely critical to achieve open-hole packer seats, interpretable logs, and a good cement bond.
3. Water will be hauled or pumped from nearby sources.
4. Reserve pit is to be lined with a 12-mil synthetic liner.
5. It is anticipated that a mud motor and PDC bit will be used from approximately 600' to TD.
6. In general, the above prognosis is presented as a guideline only; and is subject to change as dictated by hole conditions and geological interpretation.

**PERSONNEL**

Ron Richards  
Jeff Kirn, Manager of Operations  
Ed Davies, President

**OFFICE NUMBER**

303-831-9022  
303-831-9022  
303-831-9022

**CELL NUMBER**

720-209-0207  
303-981-7443  
720-641-8737

Prepared by:

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Ron Richards for Bridge Energy Inc.



# BRIDGE RESOURCES

## KORN State #1-22 WELLBORE DATA SHEET

LEASE:	Bridge Resources	TOTAL DEPTH:	2500ft
WELL:	Korn State #1-22	SURFACE LOCATION:	N43-56-11.42"
LOCATION:	Sect 22/Township 7N/Range 4W	BOTTOM HOLE LOCATION:	W116-48-15.65"
	Payette County		N43-56-11.42"
SPUD DATE:	August		W116-48-15.65"
OBJECTIVE:	Hamilton Sands	ELEVATION:	2,359ft
		ELEVATION(KB):	2,377ft

FORMATION EVALUATION	CASING SIZE (IN)	COMMENTS	HOLE SIZE (IN)	TVD	MUD WEIGHT (ppg)	FRACTURE GRADIENT (ppg)
	16" Line Pipe-Welded	No FIT	25"	82ft	WBM 8.4	8.4
		Top of cmt-500ft				
	9 5/8"-36ppft-R111-J55-STC	FIT	12 1/4"	500ft	SBM 8.8ppg	8.4
<p><b>Mud Logging</b> Each 10ft from 60ft</p> <p><b>Haliburton</b> density, neutron, resistivity sonic side wall cores</p>			8 3/4"			
	5 1/2"-17ppft-R111-J65-LTC		8 3/4"	2500ft	SBM 10.3	11.5



1" = 2 MILES

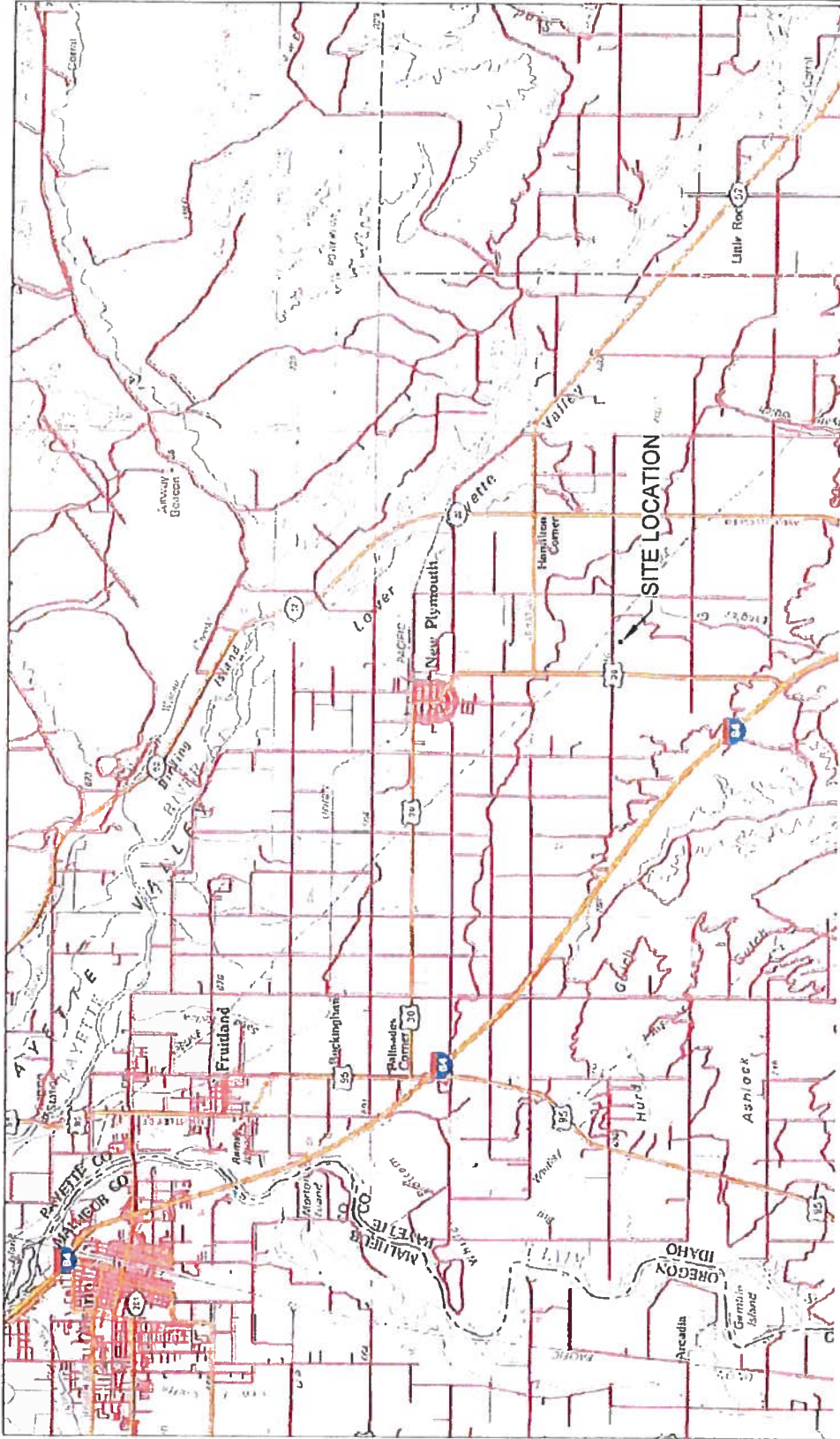
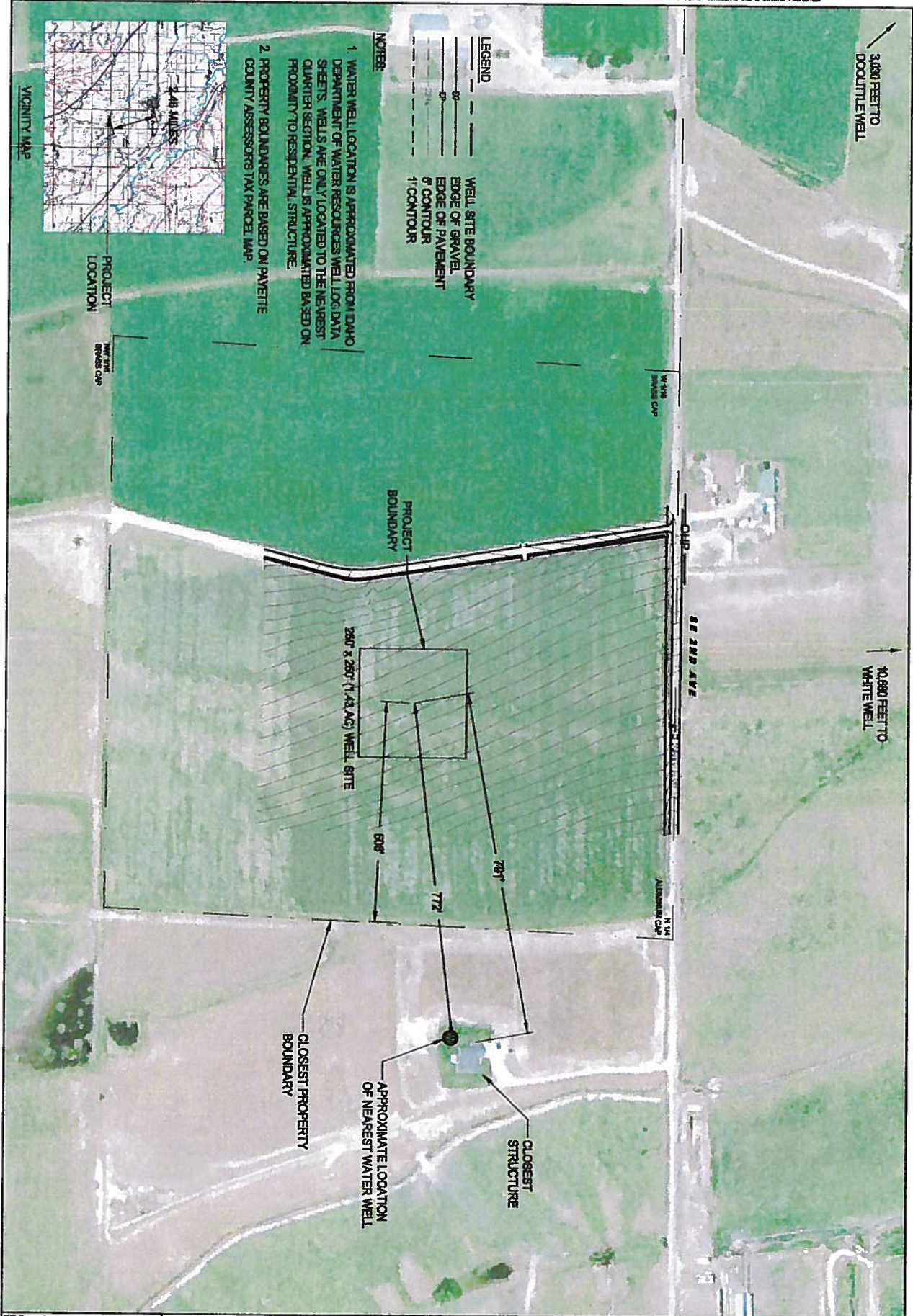


EXHIBIT MAP OF SITE  
**KORN STATE 1-22**  
 A PORTION OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4,  
 OF SECTION 22, TOWNSHIP 7 NORTH, RANGE 4 WEST, B.M.,  
 PAYETTE COUNTY, IDAHO  
 -2010-



**TIMBERLINE**  
**SURVEYING**  
 847 PARCENTRE WAY, SUITE L, NAMPA, IDAHO 83851  
 208-465-5667



TITLE: BRIDGE ENERGY INC.  
 PAYETTE, IDAHO OPERATIONS  
 WELL LOCATION EXHIBIT

DATE: 07/21/10  
 DESIGNED BY: SHR  
 CHECKED BY: RVM  
 DRAWN BY: SHR  
 SHEET: KDRN

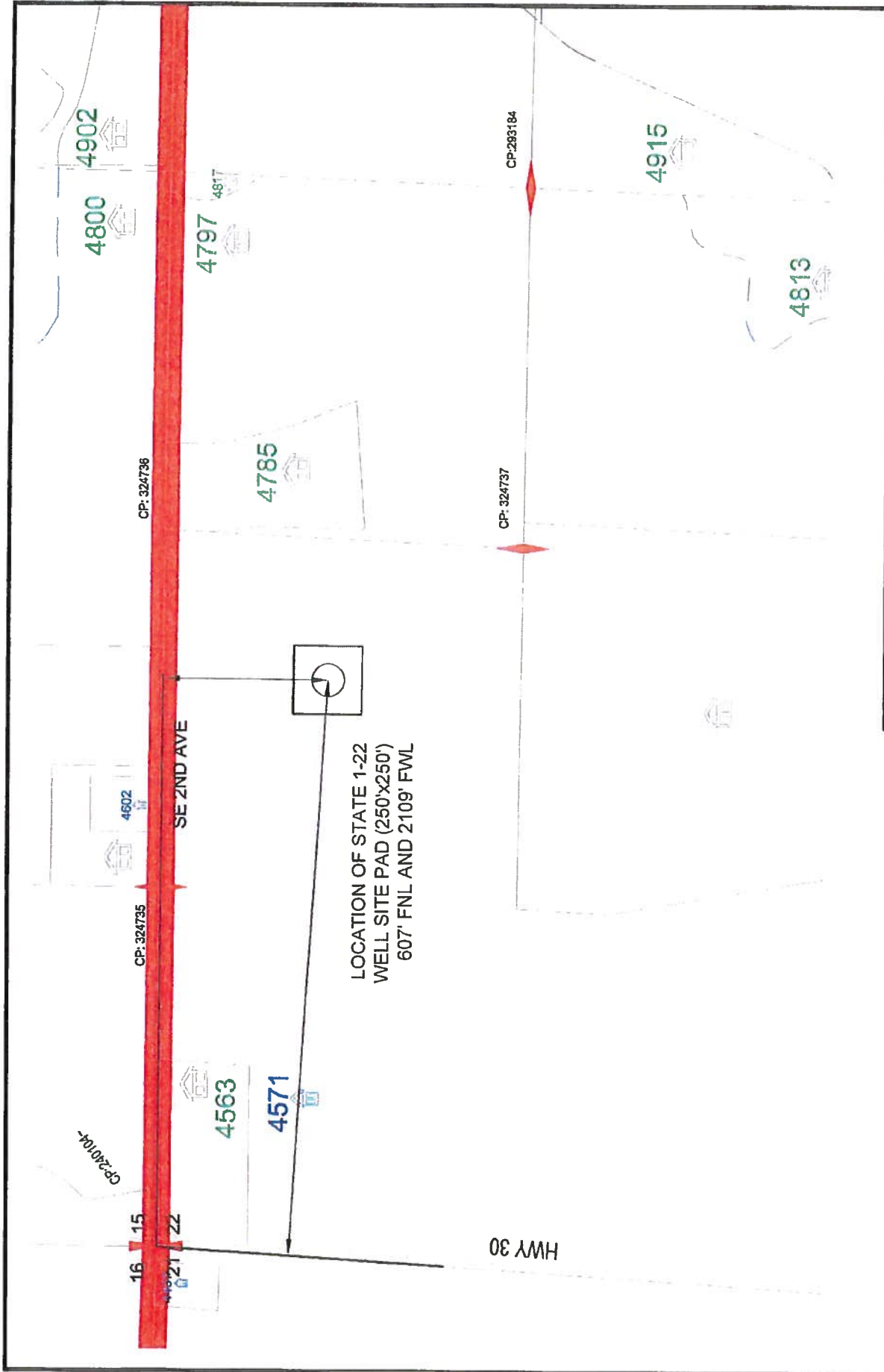


OWNER/DEVELOPER:  
 BRIDGE ENERGY INC.  
 1580 LINCOLN ST., STE 1110  
 DENVER, COLORADO 80203  
 (303) 831-9022

PROJECT LOCATION:  
 KDRN SITE  
 4571 S. 2ND AVE  
 NEW PLYMOUTH, ID 83655


PROJECT CONTACT:  
 JEFF KIRN

No.	BY	DATE	DESCRIPTION



LOCATION OF STATE 1-22  
 WELL SITE PAD (250'x250')  
 607' FNL AND 2109' FWL

EXHIBIT MAP OF SITE  
**KORN STATE 1-22**  
 A PORTION OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4,  
 OF SECTION 22, TOWNSHIP 7 NORTH, RANGE 4 WEST, B.M.,  
 PAYETTE COUNTY, IDAHO  
 -2010-



**TIMBERLINE SURVEYING**  
 817 PARKCENTRE WAY, SUITE 3, NAAMPA, IDAHO 83403  
 208-465-5687

15

22  
W 1/16  
BRASS CAP



1" = 150'

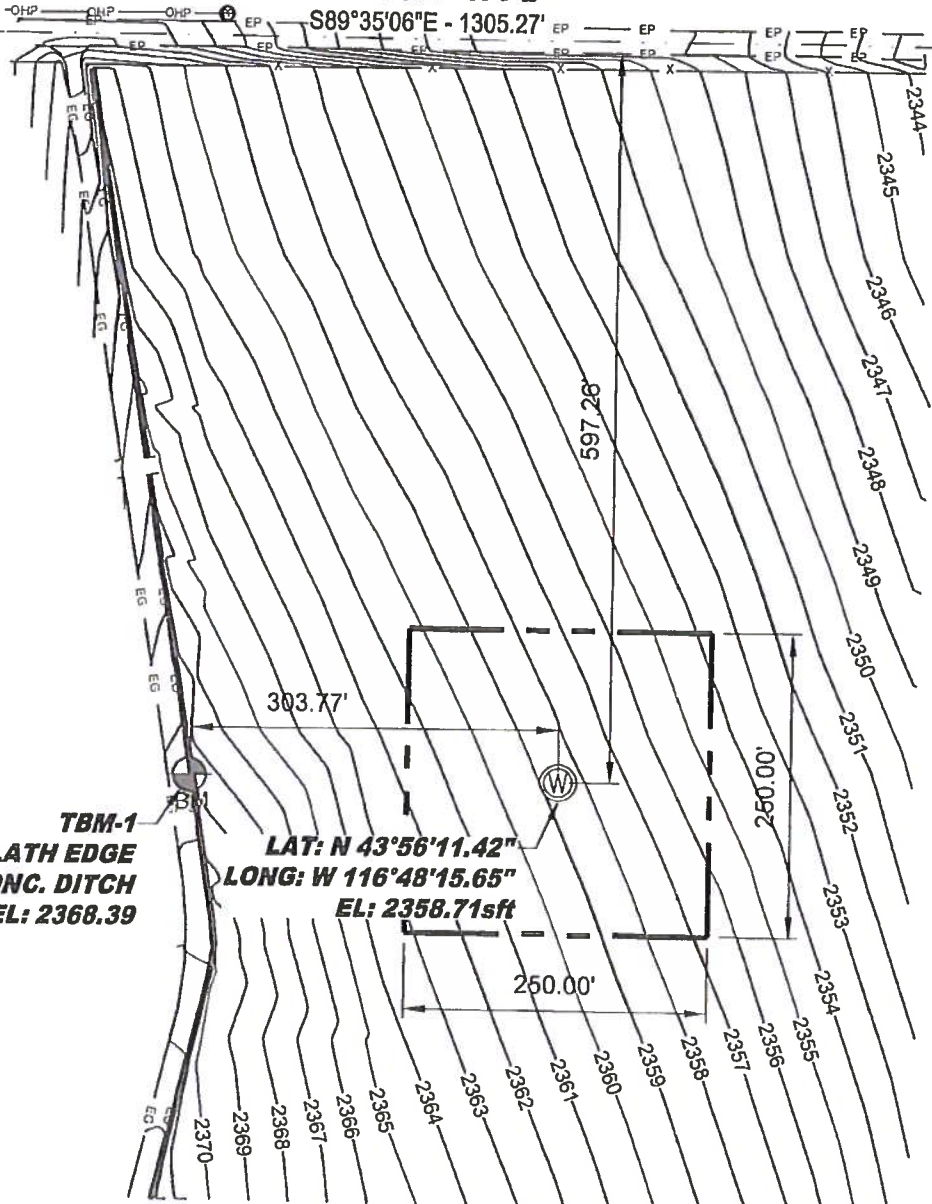
SE 2ND AVE

S89°35'06"E - 1305.27'

N03°06'19"E - 1310.78'

TBM-1  
HUB & LATH EDGE  
OF CONC. DITCH  
GPS EL: 2368.39

LAT: N 43°56'11.42"  
LONG: W 116°48'15.65"  
EL: 2358.71sft



22

NW 1/16  
BRASS CAP

### EXHIBIT MAP OF SITE KORN STATE 1-22

A PORTION OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4,  
OF SECTION 22, TOWNSHIP 7 NORTH, RANGE 4 WEST, B.M.,  
PAYETTE COUNTY, IDAHO  
-2010-



TIMBERLINE

SURVEYING

847 PARK CENTRE WAY, SUITE 3, NAMPA, IDAHO 83651  
208-465-5687

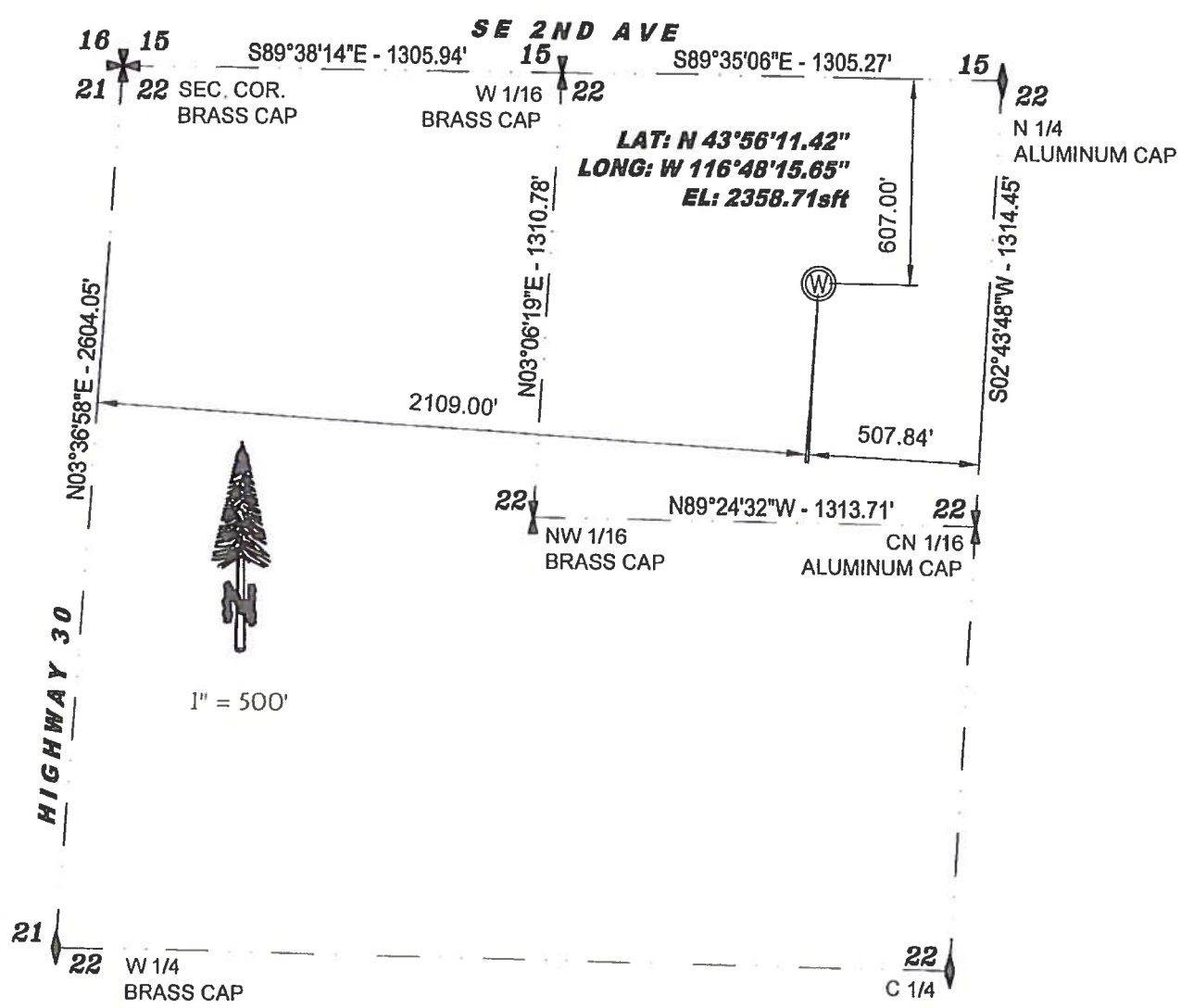
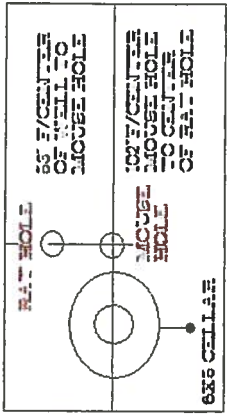
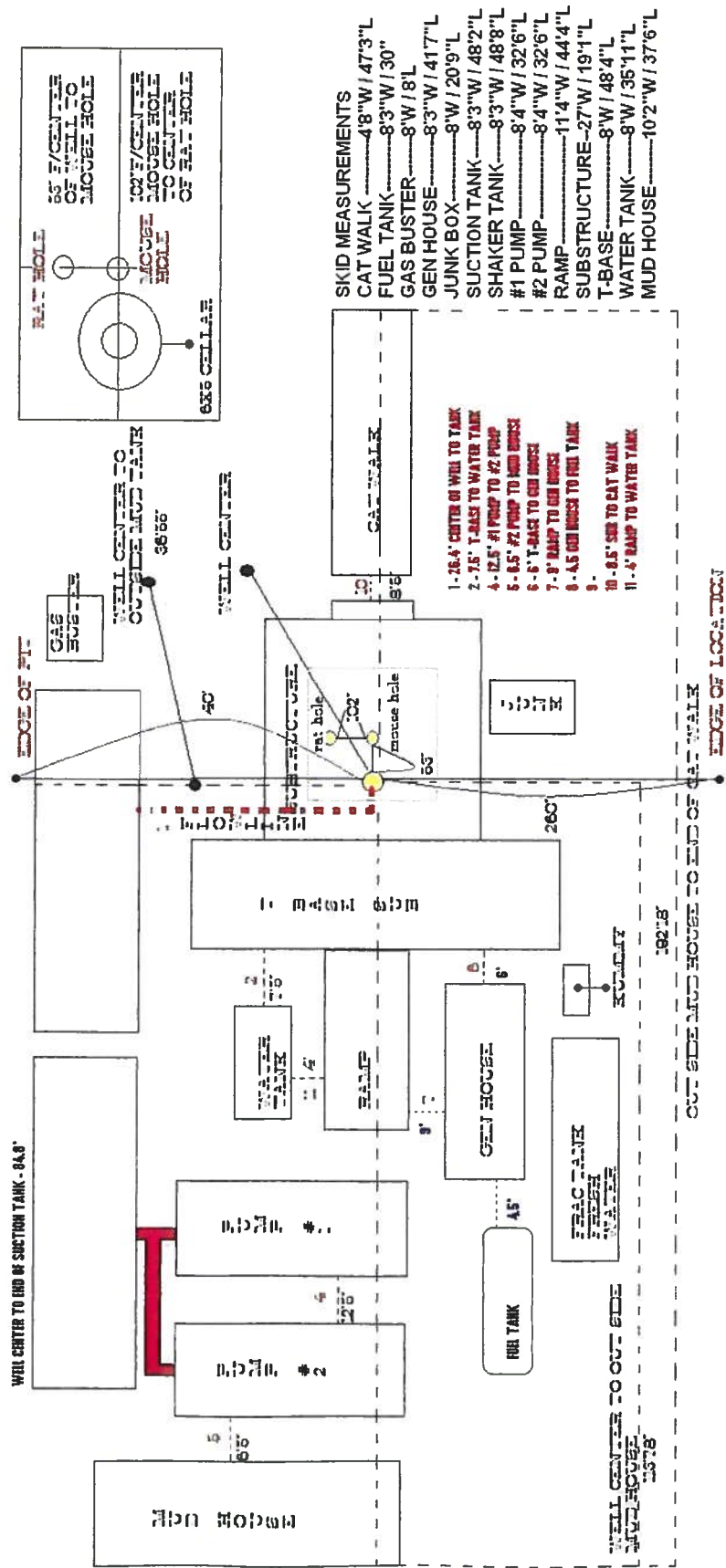


EXHIBIT MAP OF SITE  
**KORN STATE 1-22**  
 A PORTION OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4,  
 OF SECTION 22, TOWNSHIP 7 NORTH, RANGE 4 WEST, B.M.,  
 PAYETTE COUNTY, IDAHO  
 -2010-

**TIMBERLINE**  
**SURVEYING**  
 847 PARKCENTRE WAY, SUITE 3, NAMPA, IDAHO 83611  
 208-465-5687



**SKID MEASUREMENTS**

CAT WALK	48"W / 47'3"L
FUEL TANK	8'3"W / 30"
GAS BUSTER	8'W / 8'L
GEN HOUSE	8'3"W / 41'7"L
JUNK BOX	8'W / 20'9"L
SUCTION TANK	8'3"W / 48'2"L
SHAKER TANK	8'3"W / 48'8"L
#1 PUMP	8'4"W / 32'6"L
#2 PUMP	8'4"W / 32'6"L
RAMP	11'4"W / 44'4"L
SUBSTRUCTURE	27'W / 19'1"L
T-BASE	8'W / 48'4"L
WATER TANK	8'W / 35'11"L
MUD HOUSE	10'2"W / 37'6"L

- 1- 26.4' CENTER OF WELL TO TANK
- 2- 7.6' T-BASE TO WATER TANK
- 4- 12.5' #1 PUMP TO #2 PUMP
- 5- 8.5' #2 PUMP TO RAMP
- 6- 8' T-BASE TO GEN HOUSE
- 7- 8' RAMP TO GEN HOUSE
- 8- 4.5' GEN HOUSE TO WELL TANK
- 9- 11- 8.5' GEN TO CAT WALK
- 10- 8.5' GEN TO CAT WALK
- 11- 4' RAMP TO WATER TANK

WHS, LLC  
Razorback Rig Component Listing

The following list contains the components of the 2004 Cameron C-900 Hp, Trailer Mounted Drilling Rig w/ VIN Number (5024). This rig also operates w/ a FDS 150 Ton HMI hydraulic Top Drive.

Qty	Item	Remarks
1	Drawworks - Cameron 42"x 12" Water Circulating Drum w/ water cooled main brake and Wichita water cooled assist brake... Wichita Drum Clutch	
1	Power and Drive Package – Twin (2) Detroit Series 60 engines; 450 Hp each w/ Allison 5960 Transmissions into a Cushman 1000 Hp gear driven Compound, to Cushman 1000 Hp RA box; 1:1 Ratio	
1	Mast – PEMCO 120' x 400K lbs hook load; 1.25 API rating; sheaved for 10- 1-1/8" drill lines; Serial # 1312	
2	Hydraulic Scoping Cylinder f/ PEMCO derrick	Spare
1	Fluid Design Services (FDS) 150 Ton Hydraulic Top Drive w/ diesel power package.	
1	Hydraulic Motor FDS 150 Ton Top Drive	Spare
1	Block-200 Ton ABCO, 10 line 5 x 36" sheave w/ ABCO Hook	
1	Weight Indicator-Totco type 4	
1	Sub Structure-17'H x 10'W x 16'L w/6' foldout wings. Unit scopes down to 10'6"H x 13'6" on lowboy.	
1	40' Kelly; Hex	
1	Kelly Bushing	
1	Kelly Shuck w/ protector	
1	Sub-structure/T-base-45' x 8'	
1	Sub-structure ramp-48'4" x 10', hydraulic raise-cylinders part # SD83CC-24-131	
1	Top Dog House-24'10" x 7'10.5", hydraulic raise, with knowledge box, lockers, shelving, and bench seats. Framework installed for Pason Electronic Drilling Recorder and Autodriller computer system.	
1	Kelly Spinner-Cam-tech model 6100 hydraulic Kelly spinner assy.	
	Well Control Equipment-Shaffer LXT DBL 11" x 5K psi MAWP, Dual Ram, hydraulic BOP mfg. Date 11-04, Serial # 200213110-81 Shaffer LTX 11" x 5K psi MAWP spherical annular BOP	



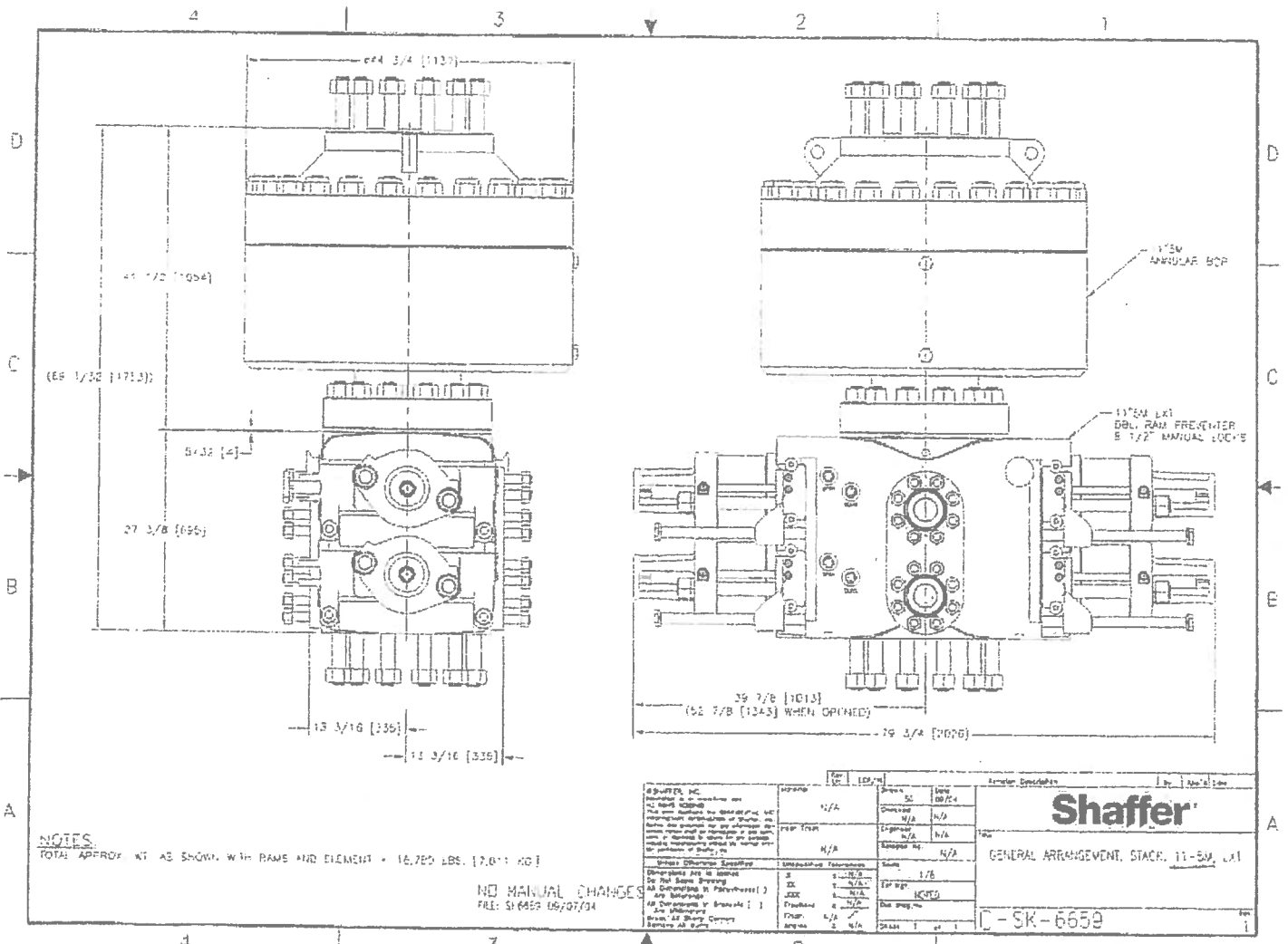
WHS, LLC  
Razorback Rig Component Listing

Qty	Item	Remarks
1	4-1/16" x 5000 psi BOP valve	
	Choke Manifold, fitted for HCR valve, choke-w/4outlets, 5000 psi	
1	Closing Unit-Massco Inc. 5 station	
2	Generators-DDC 410 KW generators, 277/480 VAC 3 Phase 60 HZ powered by 2 Detroit Series 60 14.0 L Diesel engines/Tier III Emissions standards. Skid mounted in covered house with all electronic panels as 1 unit.	
1	Generator House-44' x 10' skid mounted	
1	Swivel-EMSCO LB 200 Ton Serial # 208	
1	Mud System-2-tank system w/approx. 700 bbls capacity. 60 HP mud mixers, 4 agitators, 4 jet blowers, 70 bbls slugging tank, 2-Doublelife AWD III Linear shale shakers built in tandem, 600 GPM each. Mud Conditioner unit consisting of; 1-Doublelife AWD III shale shaker, 1-Doublelife Mod. I-210 Desander, and 1-Doublelife V-510, 10 cone Desilter.	
2	Mud Pumps-2 HHF-1000 HP triplex pumps w/pulsation dampners, powered by CAT 3412 1150 HP diesel engines, fully unitized. With 6" liners, 10" stroke, pumps will move 3.7 gal/stroke at 100% efficiency. Additional specifications upon request.	
3	American Roller Bearings for CE-F1000 mud pump	Spare
2	SKF Pillar Block bearings for CE-F1000	Spare
1	Mud/Gas Seperator: 30'H x 6' Dia vessel mounted on skid for easy rig up and tear down.	
1	Fresh Water Tank-200 bbl fresh water tank w/electronic 20 HP 480V frame 256T 3 x 2 centrifugal 4 x 6 water pump powered by Detroit 353 (2800 rpm)	
1	Catwalk-47'3" x 10'2" pipe racks	
1	Junk Box-20'9" x 7'10"	
1	Rotary Table-22" IDECO rotary table assy. On 44" centers complete w/split master bushing.	
1	Drill Collar Slips-Type A 5-1/2 MS 98C	
1	Drill Pipe Slips-Wooly M3-98	
1	Drill Collar Clamp(Wedding Band) AOT 12116 5 1/2-6 5/8	

WHS, LLC  
Razorback Rig Component Listing

Qty	Item	Remarks
	Serial # 29140	
1	Casing Elevators M66-5 ½ 250 ton 227 MT	
	Drill Pipe Elevators-2-AOT(1) 150 ton(1) 250 ton	
	Cross Over Subs-Assorted	
1	Survey Machine-Wireline survey machine.	
1	Diesel Tank-8000 gal Cylindrical Tank: Myers diesel tank transfer pump assy. w/3hp 3600rpm explosion proof motor. Skid mounted with 3 compartments for oils on front of skid.	

*This rig moves in 27 loads (including pipe). All components are skid mounted and mud-boated with lifting ears to be lifted onto oilfield floats or lowboys. All loads are legal permit loads.*



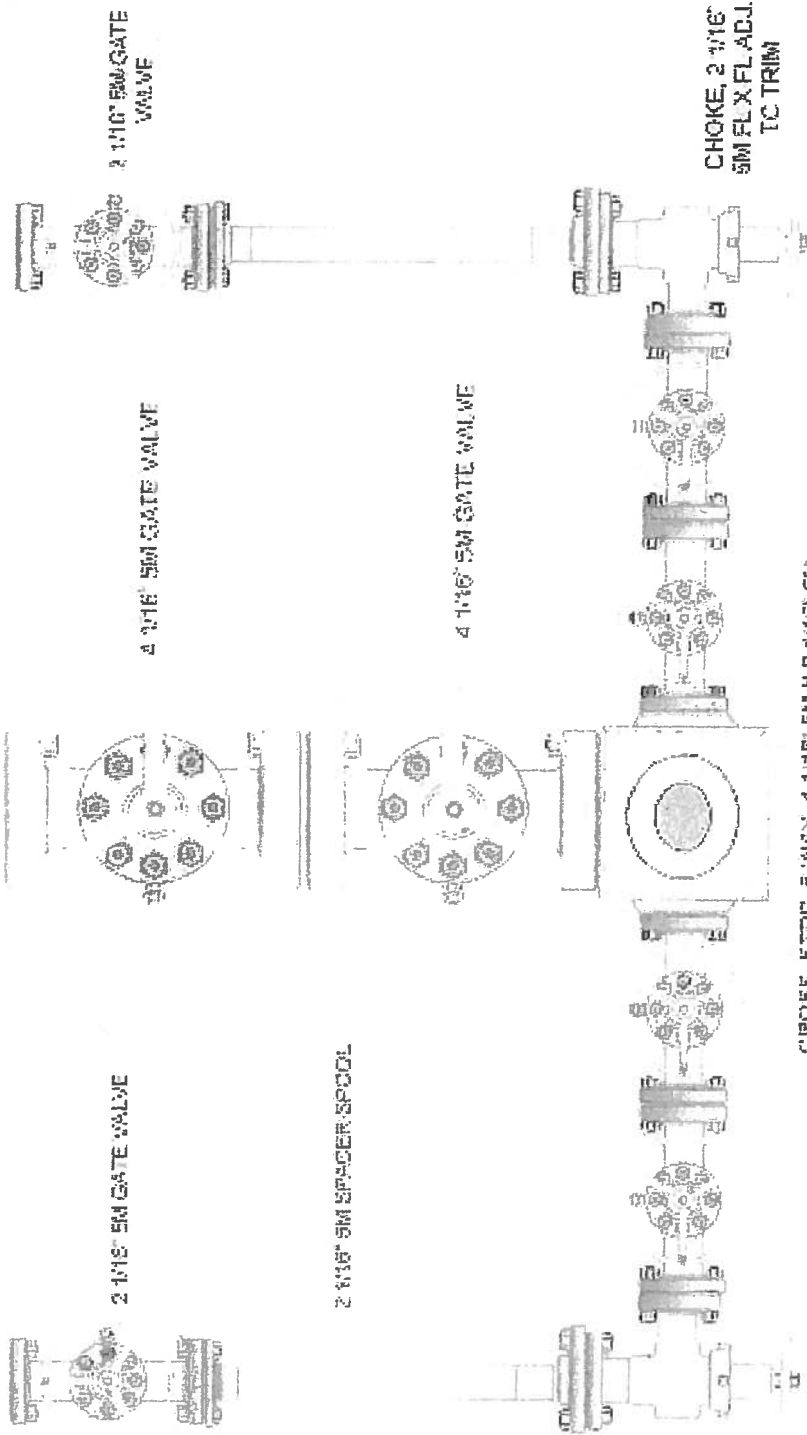
NOTES:  
 TOTAL APPROX. WT. AS SHOWN, WITH FRAME AND ELEMENT = 16,700 LBS. (7,611 KG)

NO MANUAL CHANGES  
 FILE: SH6559 106/07/04

Item	Item No.	Description	Qty.	Material
1	1004	VALVE BODY	1	4130
2	1013	VALVE PLATE	1	4130
3	1026	VALVE PLATE	1	4130
4	1056	VALVE PLATE	1	4130
5	1066	VALVE PLATE	1	4130
6	1076	VALVE PLATE	1	4130
7	1086	VALVE PLATE	1	4130
8	1096	VALVE PLATE	1	4130
9	1106	VALVE PLATE	1	4130
10	1116	VALVE PLATE	1	4130
11	1126	VALVE PLATE	1	4130
12	1136	VALVE PLATE	1	4130
13	1146	VALVE PLATE	1	4130
14	1156	VALVE PLATE	1	4130
15	1166	VALVE PLATE	1	4130
16	1176	VALVE PLATE	1	4130
17	1186	VALVE PLATE	1	4130
18	1196	VALVE PLATE	1	4130
19	1206	VALVE PLATE	1	4130
20	1216	VALVE PLATE	1	4130
21	1226	VALVE PLATE	1	4130
22	1236	VALVE PLATE	1	4130
23	1246	VALVE PLATE	1	4130
24	1256	VALVE PLATE	1	4130
25	1266	VALVE PLATE	1	4130
26	1276	VALVE PLATE	1	4130
27	1286	VALVE PLATE	1	4130
28	1296	VALVE PLATE	1	4130
29	1306	VALVE PLATE	1	4130
30	1316	VALVE PLATE	1	4130
31	1326	VALVE PLATE	1	4130
32	1336	VALVE PLATE	1	4130
33	1346	VALVE PLATE	1	4130
34	1356	VALVE PLATE	1	4130
35	1366	VALVE PLATE	1	4130
36	1376	VALVE PLATE	1	4130
37	1386	VALVE PLATE	1	4130
38	1396	VALVE PLATE	1	4130
39	1406	VALVE PLATE	1	4130
40	1416	VALVE PLATE	1	4130
41	1426	VALVE PLATE	1	4130
42	1436	VALVE PLATE	1	4130
43	1446	VALVE PLATE	1	4130
44	1456	VALVE PLATE	1	4130
45	1466	VALVE PLATE	1	4130
46	1476	VALVE PLATE	1	4130
47	1486	VALVE PLATE	1	4130
48	1496	VALVE PLATE	1	4130
49	1506	VALVE PLATE	1	4130
50	1516	VALVE PLATE	1	4130
51	1526	VALVE PLATE	1	4130
52	1536	VALVE PLATE	1	4130
53	1546	VALVE PLATE	1	4130
54	1556	VALVE PLATE	1	4130
55	1566	VALVE PLATE	1	4130
56	1576	VALVE PLATE	1	4130
57	1586	VALVE PLATE	1	4130
58	1596	VALVE PLATE	1	4130
59	1606	VALVE PLATE	1	4130
60	1616	VALVE PLATE	1	4130
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62	1636	VALVE PLATE	1	4130
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71	1726	VALVE PLATE	1	4130
72	1736	VALVE PLATE	1	4130
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78	1796	VALVE PLATE	1	4130
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82	1836	VALVE PLATE	1	4130
83	1846	VALVE PLATE	1	4130
84	1856	VALVE PLATE	1	4130
85	1866	VALVE PLATE	1	4130
86	1876	VALVE PLATE	1	4130
87	1886	VALVE PLATE	1	4130
88	1896	VALVE PLATE	1	4130
89	1906	VALVE PLATE	1	4130
90	1916	VALVE PLATE	1	4130
91	1926	VALVE PLATE	1	4130
92	1936	VALVE PLATE	1	4130
93	1946	VALVE PLATE	1	4130
94	1956	VALVE PLATE	1	4130
95	1966	VALVE PLATE	1	4130
96	1976	VALVE PLATE	1	4130
97	1986	VALVE PLATE	1	4130
98	1996	VALVE PLATE	1	4130
99	2006	VALVE PLATE	1	4130
100	2016	VALVE PLATE	1	4130

Man. Fold spool 11" 5M x 11" 5M  
 1 cut let

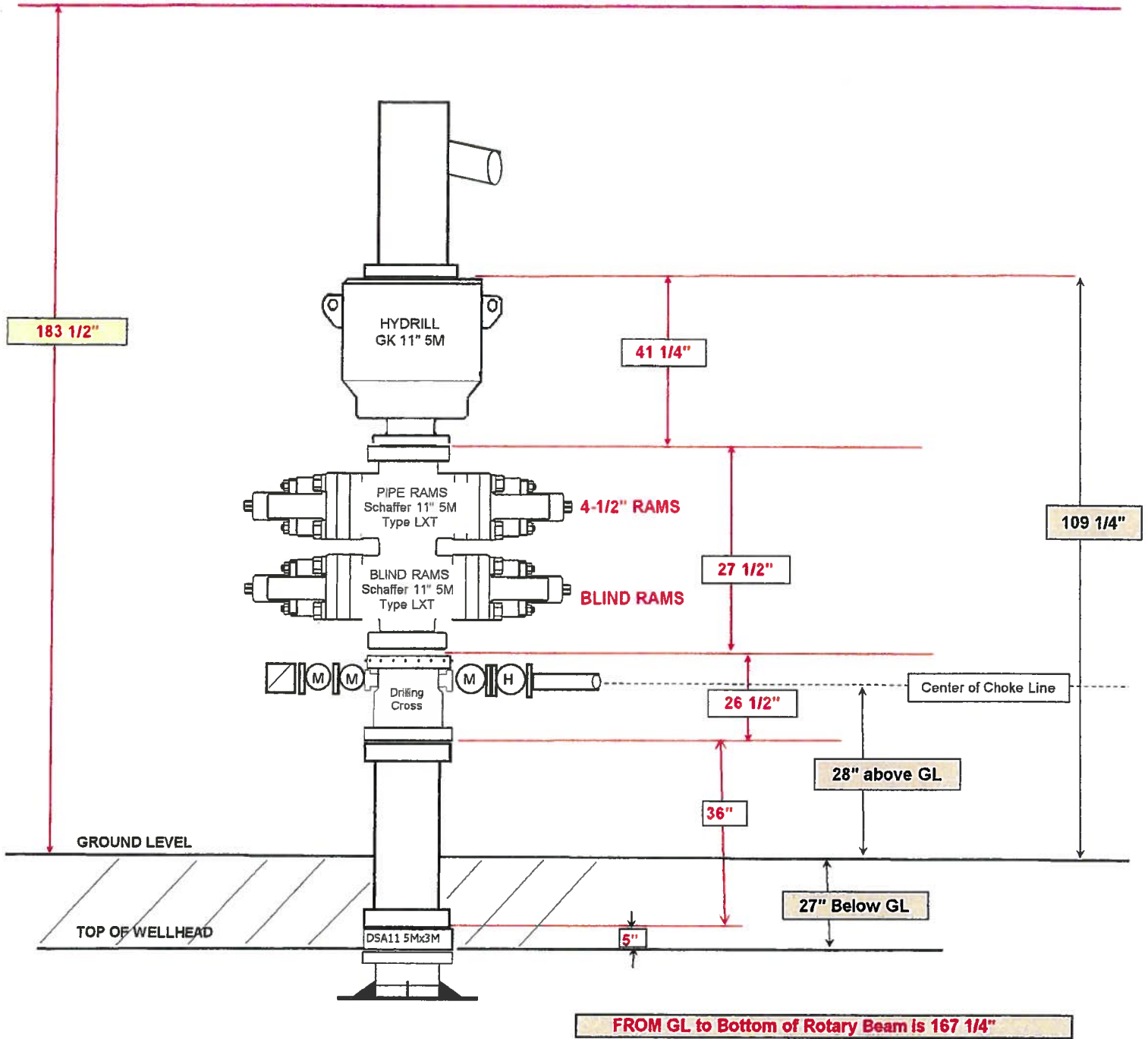
# 4 1/16" 5M X 2 1/16" 5M CHOKE MANIFOLD



WHS, LLC  
BOP Schematic NU on Surface- Razorback Rig

RIG FLOOR

RIG FLOOR





## **MEMORANDUM**

August 2, 2010

To: Nancy Welbaum, IDL  
From: Ryan V. Morgan; P.E., LEED AP  
Cc: Steve West; Jeff Hammel, E.I  
Re: Additional Information for Korn Well.

Nancy,

Per your request via email last Friday please find attached the additional information regarding distances from the proposed well to the additional features requested.

Closest Gas Well – 3030' (Doolittle)  
Closest Water Well – 780' (residential well located to the east)  
Closest Structure – 775' (residential building located to the east)

Please note that the distance to the production boundary is not supplied as this boundary is yet to be determined.

Should you have additional questions please let us know.