January 16, 2014

PO BOX 560
ROCKFORD
MICHIGAN 49341
PHONE: 616 866-5024
FAX: 616 866-3750

Idaho Department of Lands
Mr. Robert Johnson
Oil & Gas Manager
300 N. 6th Street
Boise, ID 83720-0050

RE: Smith 1-10 Permit Application
SW ¼ NE ¼ Section 10 T5N-R4W
Canyon County, Idaho

TRENDWELL WEST INC.

FINDING ENERGY FOR YOU

Dear Mr. Johnson,

Please find enclosed a well Permit Application for Permit to Drill, IDL Supplement to Permit Application, lease map with unit outline, copy of individual leases (two) subject to the proposed 40 acre drill unit and a permit fee check for $2,000.00 for the Smith 1-10. Also enclosed is the form Idaho Oil and Gas Conservation Commission Organization Report, Form No. 0-1.

Trendwell West, Inc.,"Trendwell" (an affiliate of Trendwell Energy Corp.) is applying for the Smith #1-10 as an oil well permit on a 40 acre unit described as the SW ¼ of the NE ¼ of Section 10-T5N-R4W, Canyon County, Idaho.

Trendwell is negotiating surface damages with the surface owner and anticipates this will be easily reached. Per IDL Regulation 075.01, Trendwell will provide the IDL an executed Surface Use Agreement prior to spud of the well.

For well bonding purposes (per IDL Regulation 070.01), a cashier's check in the amount of $15,200.00 is enclosed.

Trendwell would like to request confidential status for this application as far as what is permitted in IDL Regulations.

If you have any questions, please contact me.

Sincerely,

Rick Sandtveit

Rick Sandtveit
Vice President Engineering

Enclosures (8)

API #
11-027-
20003

IDAHO OIL AND GAS CONSERVATION COMMISSION

Application For Permit to Drill, Deepen or Plug Back

LV600553

APPLICATION TO: Drill ($2,000) [X] Deepen ($500) [ ] Plug Back ($500) [ ]

DEPT. OF LAND
2014 JAN 17 AM 9
BOISE, IDAHO

NAME OF COMPANY OR OPERATOR: Trendwell West, Inc. Date: 01/15/2014

Address: 10 Bridge Street, Suite 200 PO Box 560

City: Rockford State: MI Zip Code: 49341 Telephone: (616) 866-5024

Contact Name: Richard Sandtveit Email Address: rick@trendwellenergy.com

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DESCRIPTION OF WELL AND LEASE

Name of Lease: Smith Well Number: 1-10 Elevation (ground): 2,435'

Well Location: Section: 10 Township: T5N Range: R4W (or block and survey)

(give footage from Section lines): 3,300' from the south section line and 1,820' from the east section line

Field and Reservoir (if wildcat, so state): Oil Wildcat County: Canyon

Distance, in miles, and direction from nearest town or post office: The well is approximately 6 miles north of Notus, ID

Nearest distance from proposed location to property or lease line: bearing of N54W and 400' from the location to PL feet

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

Proposed depth: 5,200' Rotary or cable tools: Rotary

Planned logging tools: Triple Combo – Gamma Ray, SP, CNL, CDT, Dual Induction

Approx date work will start: April 1, 2014 Number of acres in lease(s): 40 acre unit - 720.876 acres leased

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)

Address of above

Status of bond

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)

CERTIFICATE: I, the undersigned, state that I am the Vice President of Engineering of Trendwell West, 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: 1/15/2014 Signature: Richard A. Sandtveit

Permit Number: LV600553 Approval Date: Approved by:

API Number: 11-027-20003

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

Rev. 05/31/12

INSTRUCTIONS

READ CAREFULLY AND COMPLY FULLY

Attach a survey plat or map, preferably on a scale of one (1) inch equals one thousand (1,000) feet, prepared by a licensed surveyor or engineer, which shows the proposed well location. The survey plat or map must show the location of the well with reference to the nearest lines of an established public survey. For directional wells, both surface and bottomhole locations should be marked.

Show distances of the proposed well from the two nearest lease boundary lines, if applicable, and from the nearest oil or gas wells on the same lease completed in or being drilled to the same reservoir. If the well location requested is not in conformance with the applicable well-spacing rules, show all off-setting wells to the proposed well, and the names and addresses of all adjoining lease or property owners.

The location of the nearest structure with a water supply, or the nearest water well as shown on the IDWR registry of water rights or well log database, must also be shown on a plat or map.

If a plat or map is filed for the purpose of designating the drilling and producing unit, or proration unit, on which the proposed well is to be drilled, the boundaries of the unit shall be shown, as well as the boundaries of all other units attributed to other wells on the same lease completed in or being drilled to the same reservoir. The acreage contained within each unit shall also be shown.

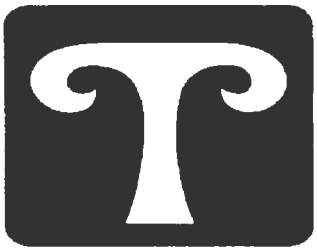
Do not confuse survey lines with lease boundary lines. The plat or map should show your entire lease if possible. If it is not practical to show the entire lease and the plat or map shows only a section, block or lot out of your lease, you should clearly indicate the plat or map only covers a portion of the lease.

The submitted information should also include the following:

1. Estimated depth to the top of the important geologic markers
2. Estimated depth to the top of the target formations.
3. Proposed casing program, including size and weight of casing and the depth at which each casing type is to be set.
4. Type and amount of cement to be used, and the intervals cemented.
5. Information on the drilling plan (drill pad and rig set up, etc).
6. Schematic diagram of the BOP and well head assemblies, including the minimum size and pressure rating of all components of the BOP and well head assemblies.
7. Best management practices to be used for erosion and sediment control.
8. Plan for interim reclamation of the drill site after the well is completed, and a plan for final reclamation of the drill site following plugging and abandonment of the well.
9. Information regarding well treatments, pit construction, and directional drilling on separate forms if known at the time of application. If not included in this application, then separate application and approval will be required prior to these activities.

Log Submittals: All logs shall be submitted to the Department in paper and digital formats within thirty (30) days of the log being run. If logs were run in color, then the submitted copies shall also be in color. Digital formats must be Tiff and LAS 2.0 or higher. It shall be the duty of any person, operator or contractor drilling an oil or gas well or drilling a seismic, core or other exploratory hole to report to the Commission all fresh water sands encountered; such report shall be in writing and must give the location of the well or hole, the depth at which the sands were encountered, and thickness of such sands, and the rate off flow of water, if known.

Applicants should be familiar with IDAPA 20.07.02, Rules Governing Conservation of Crude Oil and Natural Gas in the State of Idaho.



Trendwell West, Inc.
10 E Bridge Street – Suite 200
PO Box 560
Rockford, MI 49341

IDL Supplement to Permit For

Smith #1-10 Well

Canyon County, Idaho

January 15, 2014

INDEX

Topic Page

1. Background Information

The objective of this operation is to drill a vertical well to test productivity in primarily the Webber Sand and secondarily in the Hamilton and/or Willow Sands.

Well Type: Vertical
Well Name: Smith #1-10
State: Idaho
County: Canyon
Township: 5N
Range: 4W
Section: 10

Mapping Reference:

NAD83:
UTMI 11 Idaho West - Zone 1103
Mag Dec: 14.15^0 Grid Conv: -0.75113^0 Total Corr: 14.90113^0

Coordinates – NAD83:

Surface Location:
Lat: N 43^0 47' 14.09435"
Long: W 116^0 48' 00.23737"
SPCS: N 774572.674'
E 2347381.323'

Bottom Hole Location:
Lat: N 43^0 47' 14.09435"
Long: W 116^0 48' 00.23737"
SPCS: N 774572.674'
E 2347381.323'

Elevations:

GL: 2,435'
KB: 2,450' (estimated)

Intended Total Depth of Well:

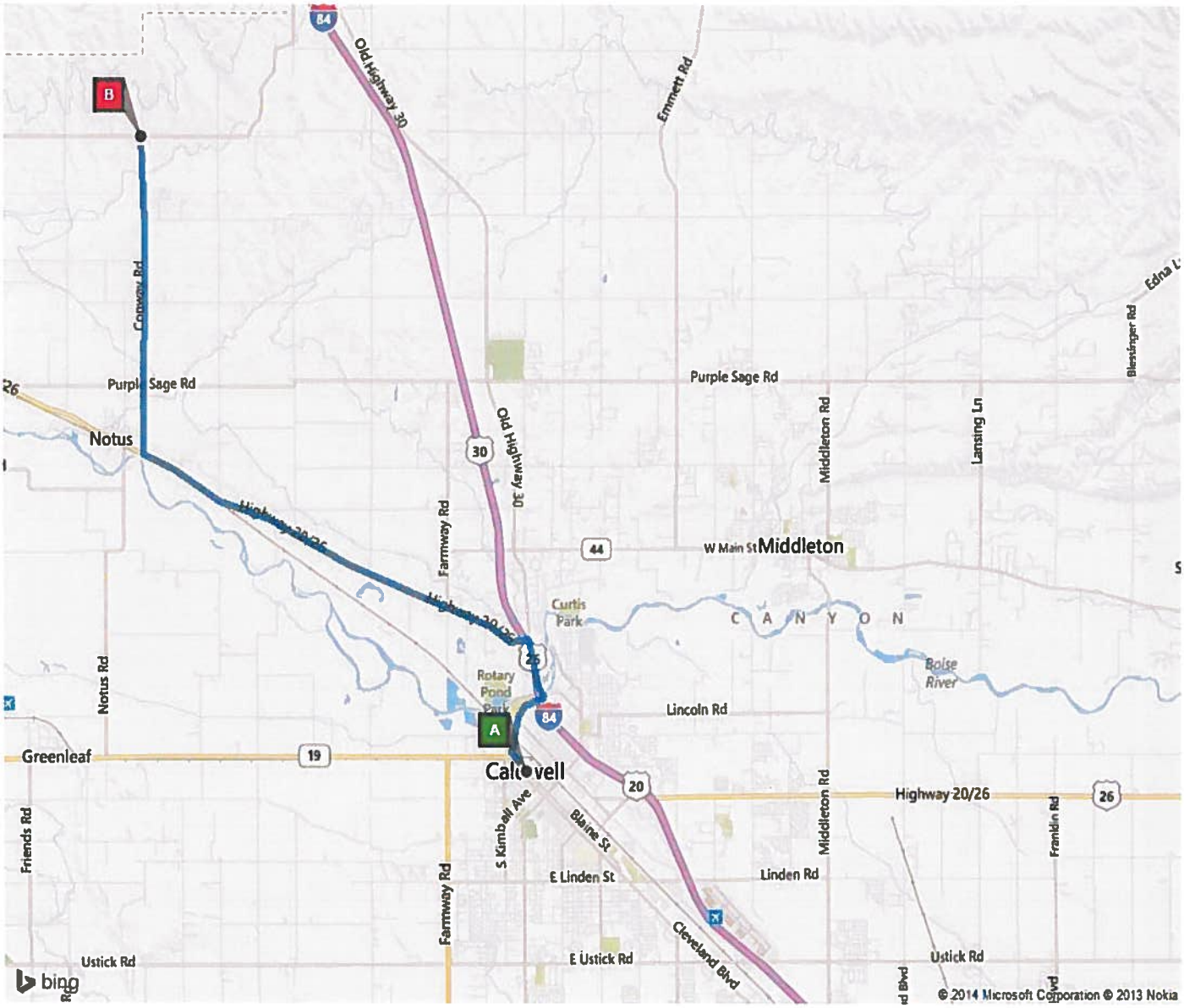
MD: 5,200'
TVD: 5,200'

1.1. Well Location Information

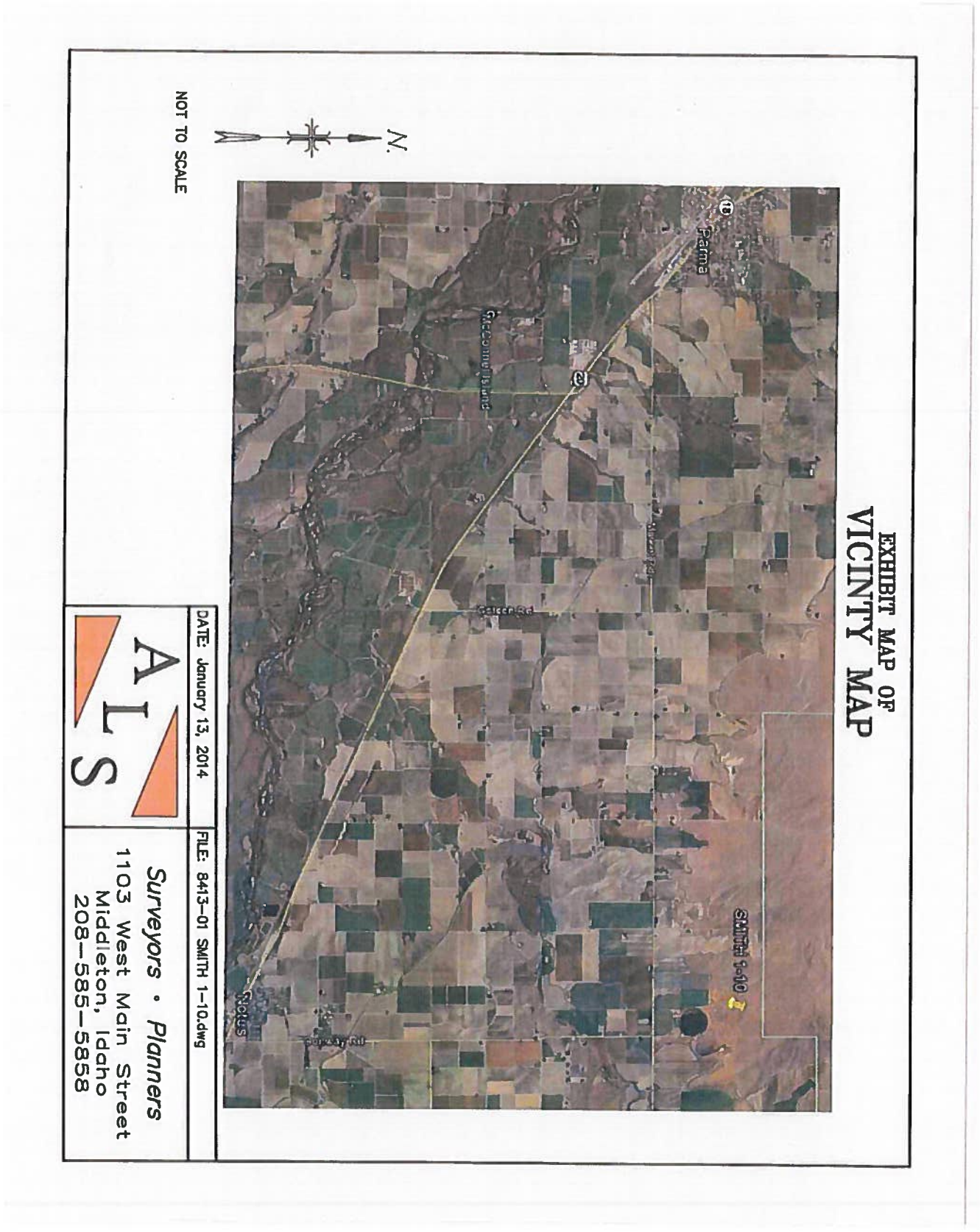
Directions from Caldwell, ID:

Go northwest on I-84 and take exit 26 on US-20/US-26. Go left on US-20/US-26 approximately 5.6 miles to Conway Road (just outside the town of Notus). Turn right or north on Conway road and follow approximately 6 miles to Market Road. Turn left or west on Market Road and go about ¼ mile to the lease road on the right or north side of Market Road. Follow the lease road about 3,400 feet to location.

1.2. Access Map

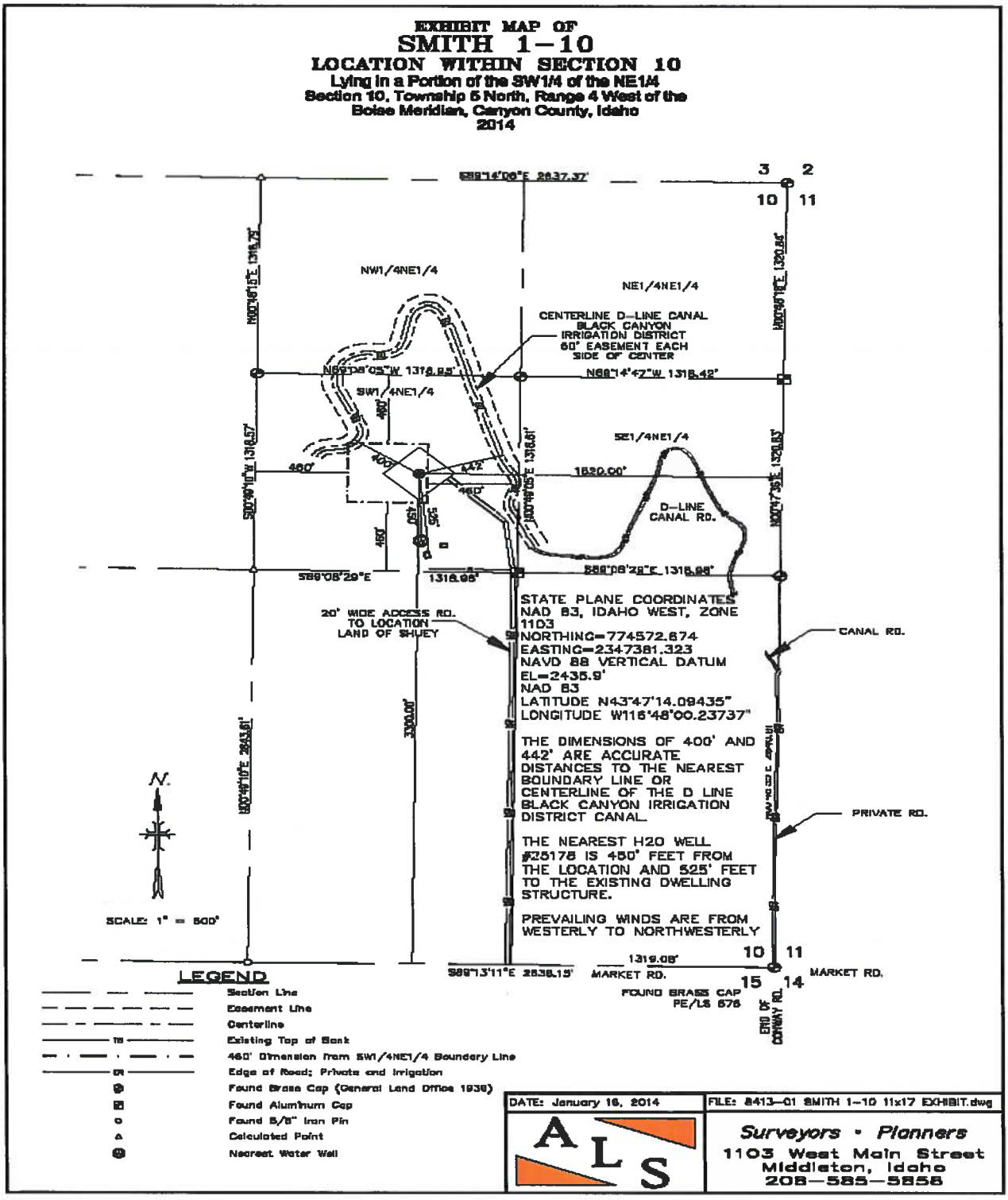


1.3. Vicinity Map

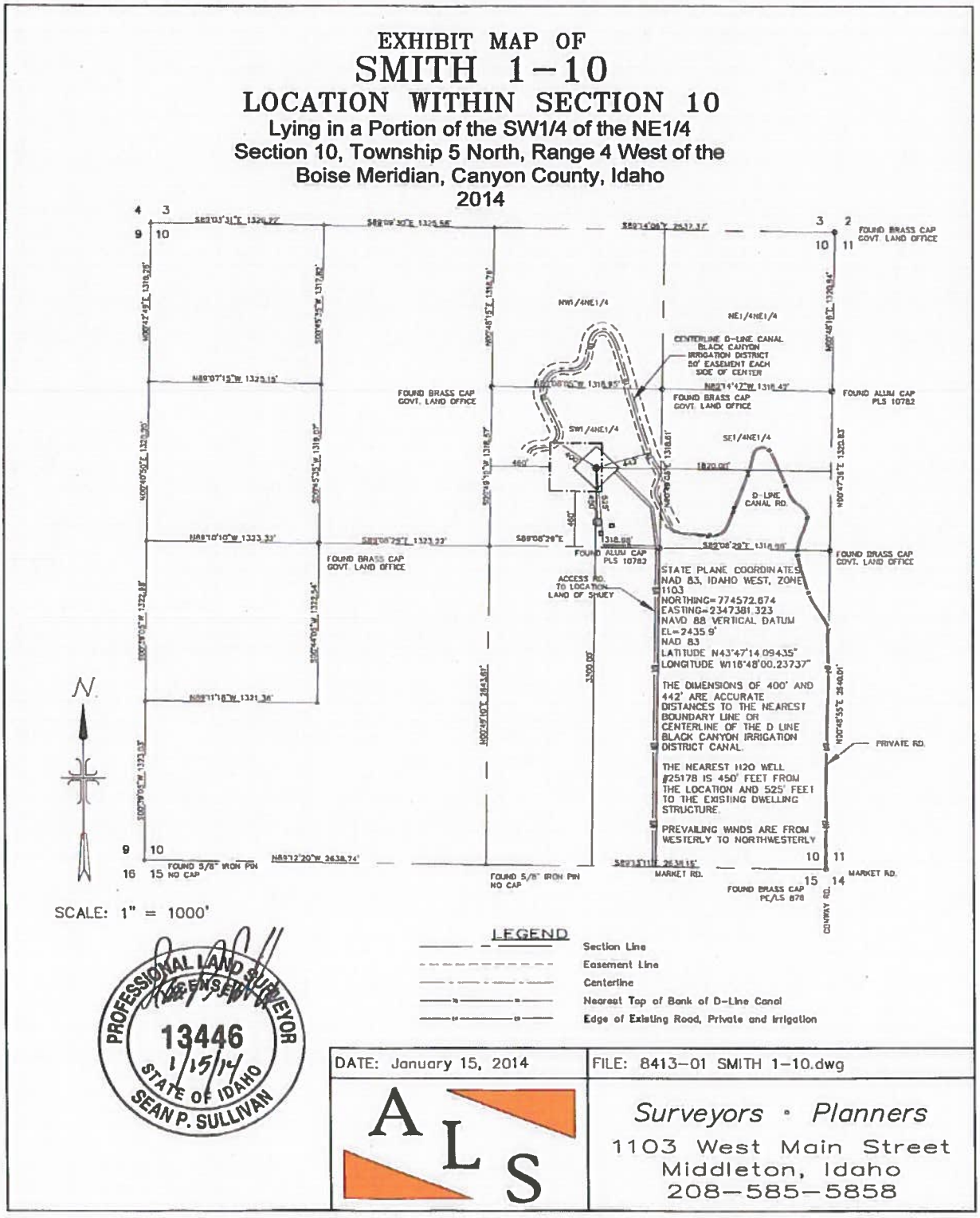


1.4. Surveyor's Maps

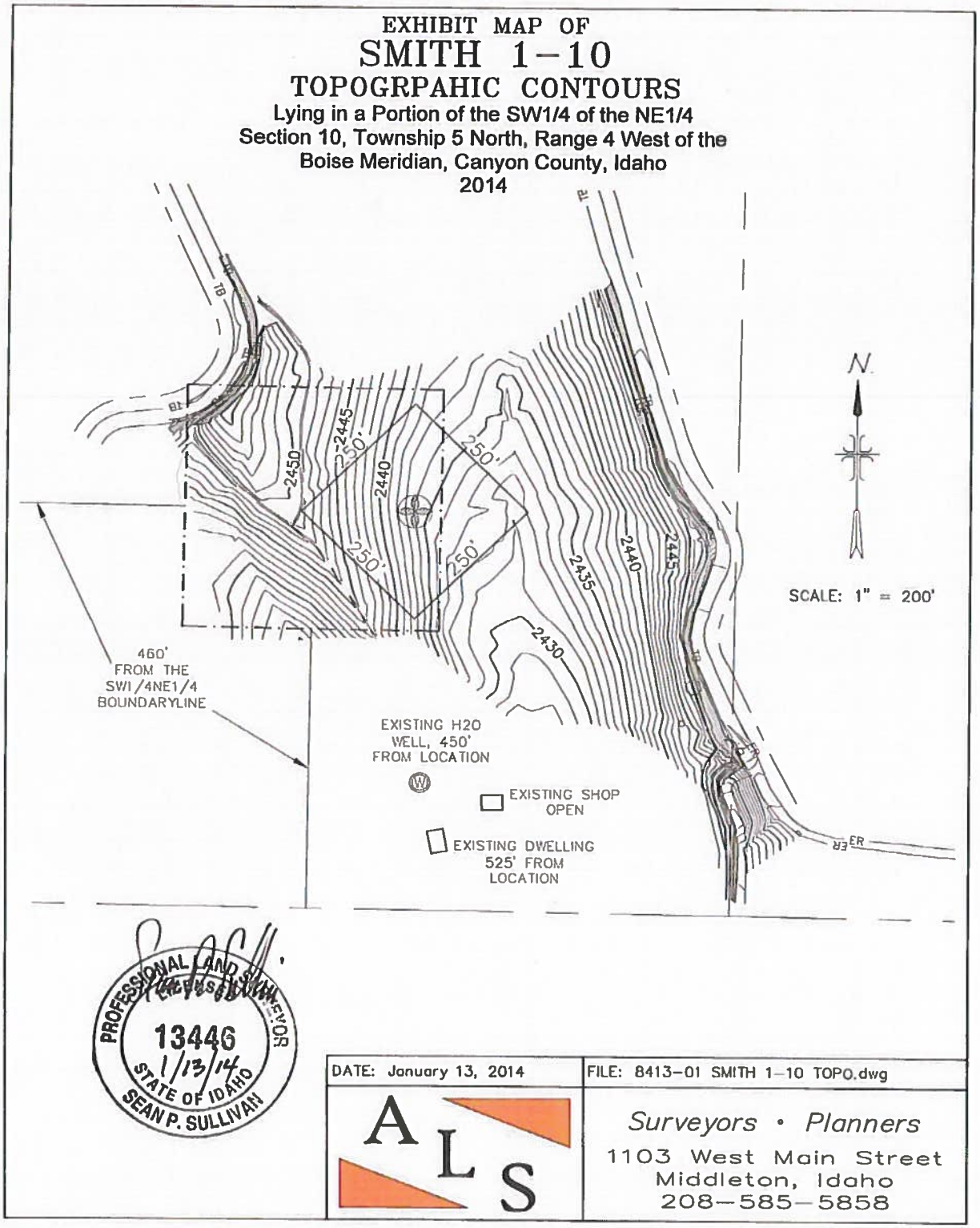
1.4.1. Location Map East Half of Section



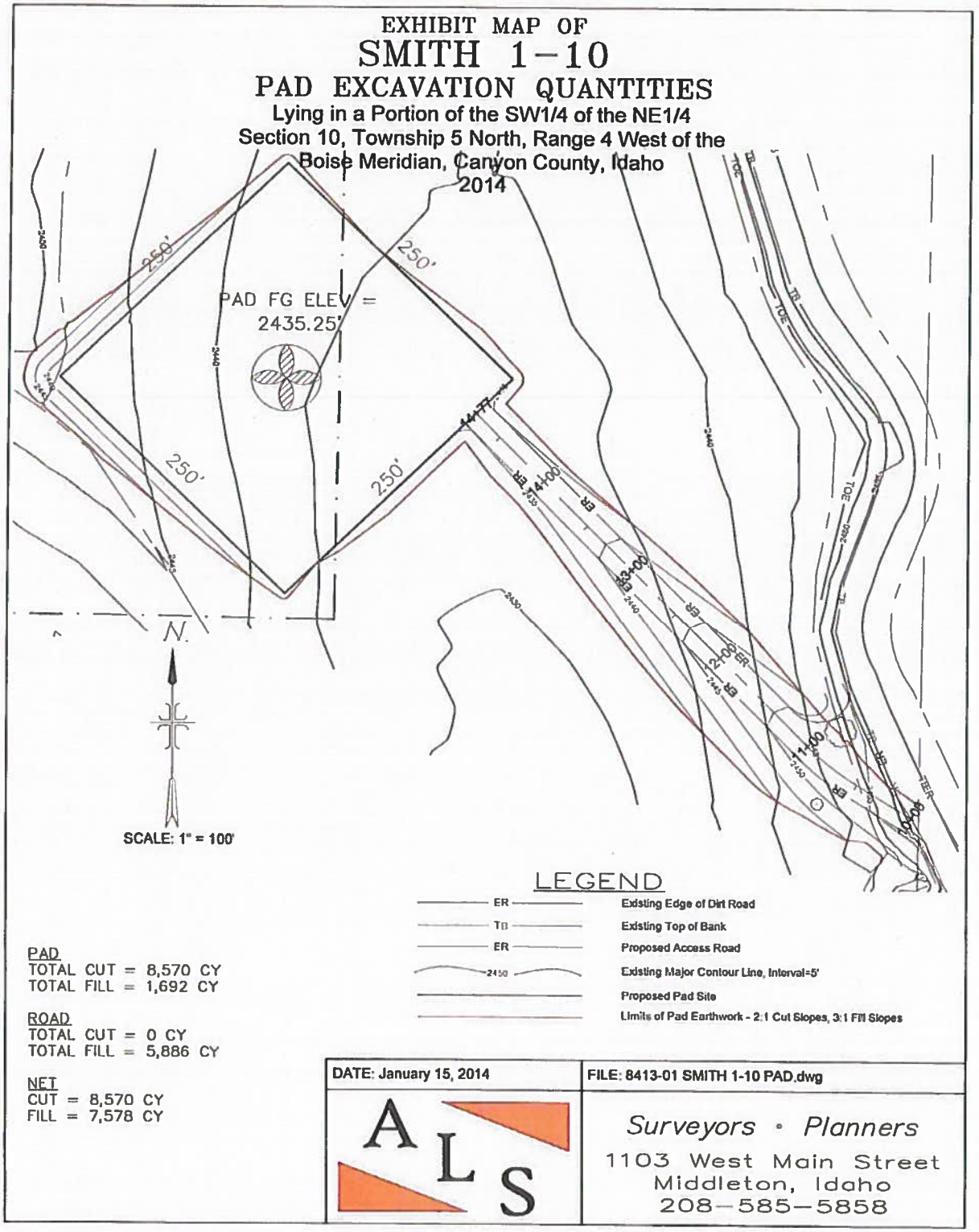
1.4.2 Location Map Full Section



1.4.3. Contour Map



1.4.4. Excavation Map



1.4.5. Road Elevations at Pad Entrance

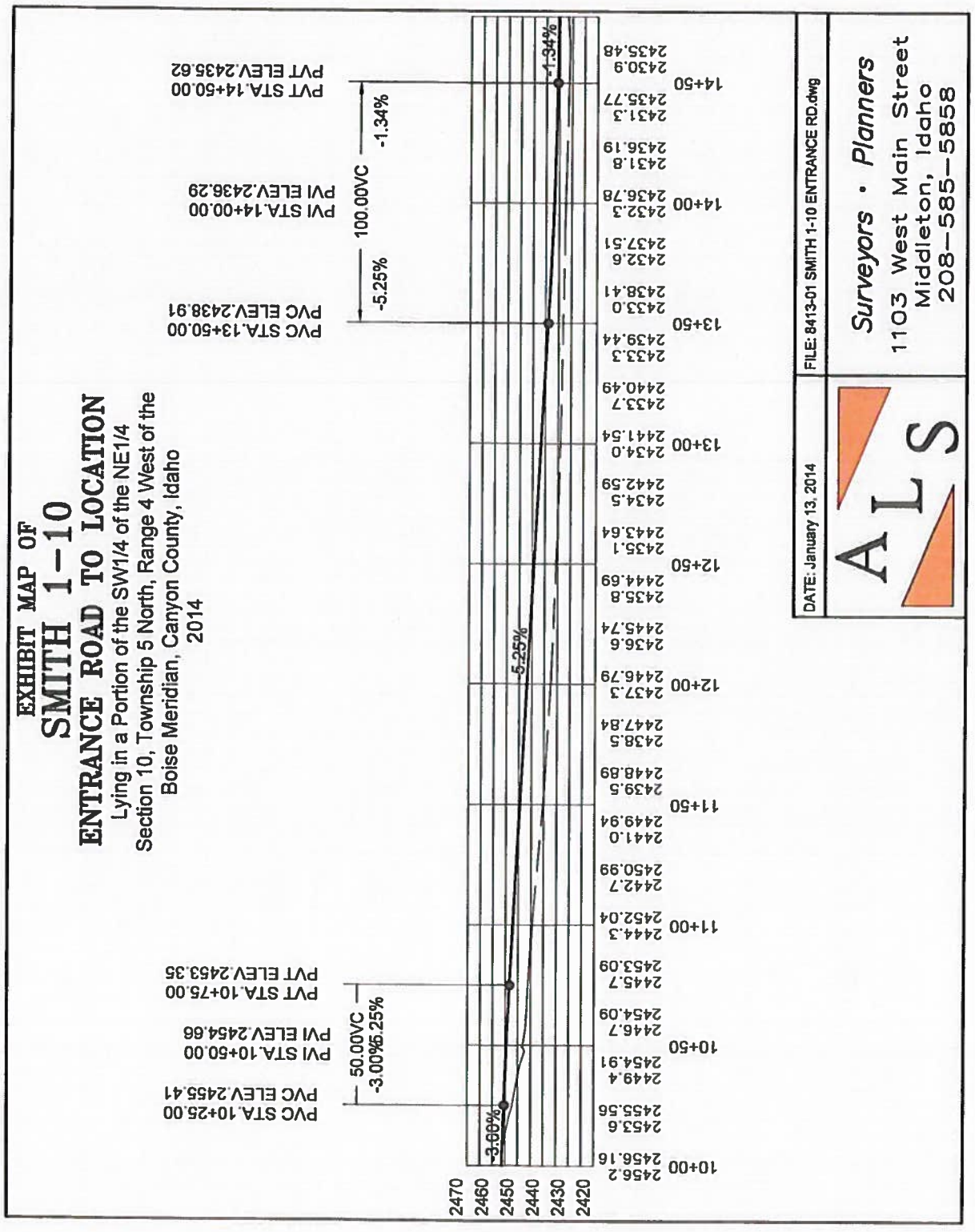
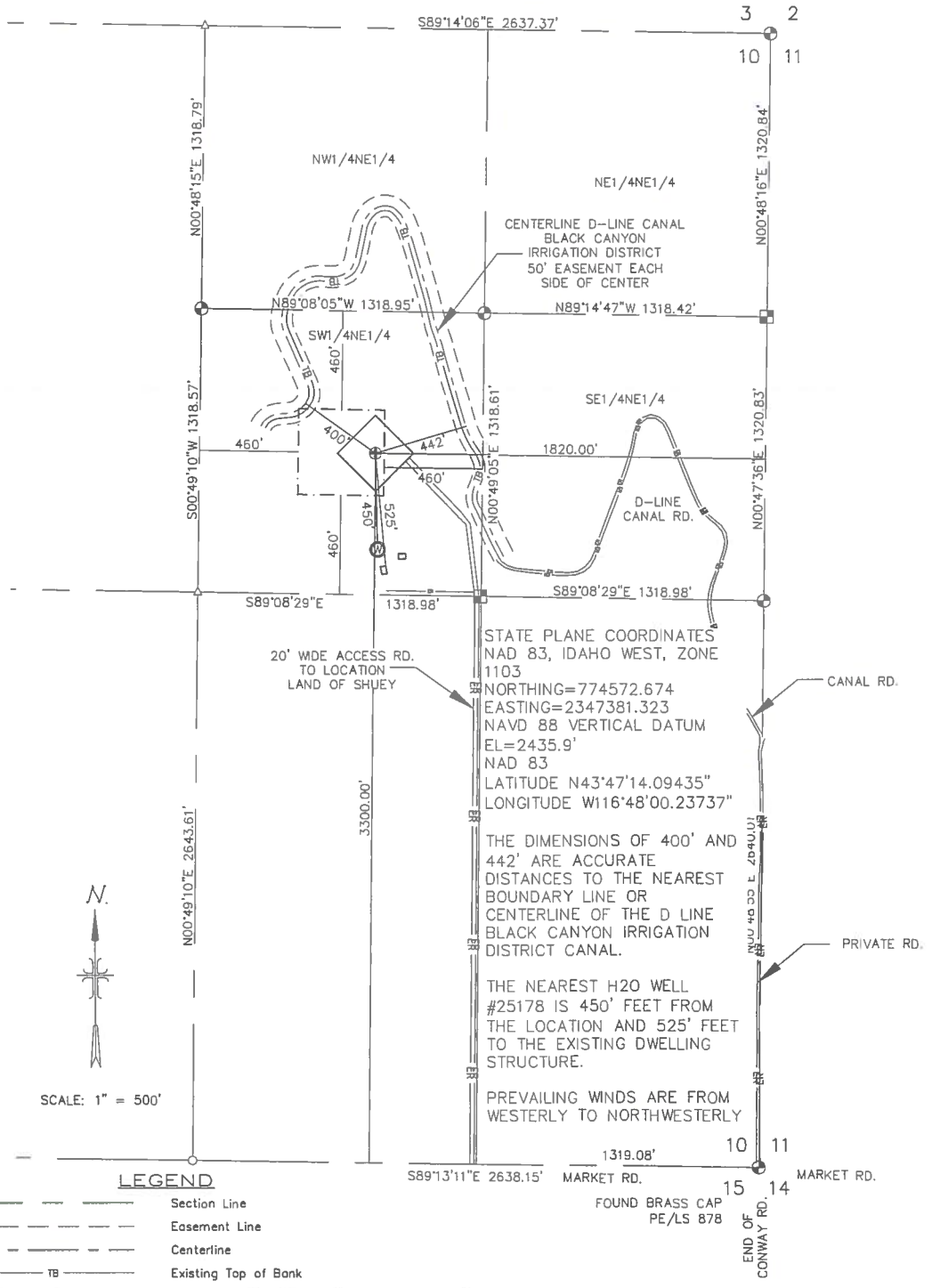


EXHIBIT MAP OF
SMITH 1–10
LOCATION WITHIN SECTION 10

Lying in a Portion of the SW1/4 of the NE1/4
Section 10, Township 5 North, Range 4 West of the
Boise Meridian, Canyon County, Idaho
2014



LEGEND

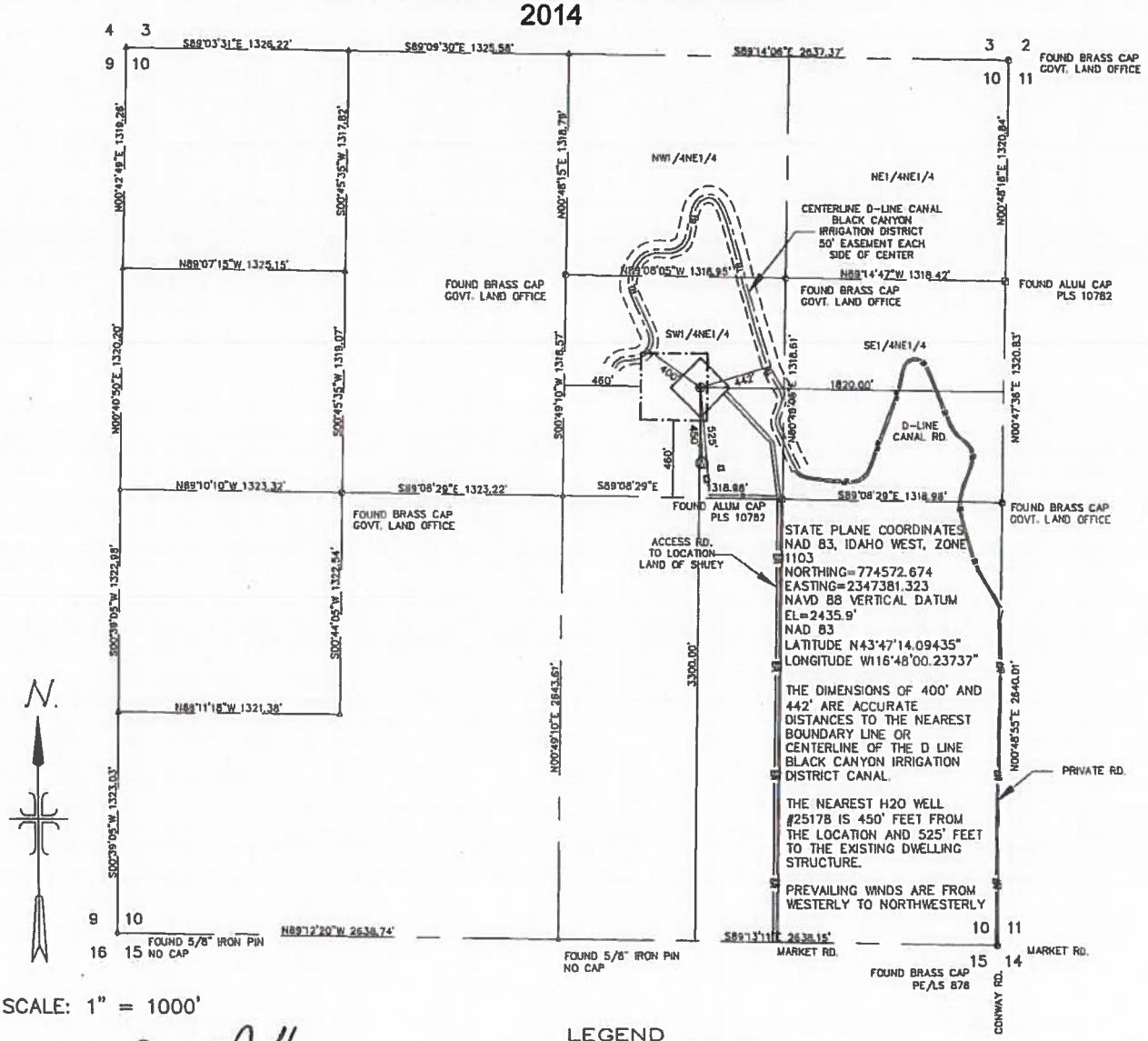
- Section Line
- Easement Line
- Centerline
- TB — Existing Top of Bank
- 460' Dimension from SW1/4NE1/4 Boundary Line
- ER — Edge of Road; Private and Irrigation
- Found Brass Cap (General Land Office 1936)
- Found Aluminum Cap
- Found 5/8" Iron Pin
- Calculated Point
- Nearest Water Well

DATE: January 16, 2014	FILE: 8413-01 SMITH 1-10 11x17 EXHIBIT.dwg

ALS

Surveyors • Planners
1103 West Main Street
Middleton, Idaho
208–585–5858

EXHIBIT MAP OF
SMITH 1-10
LOCATION WITHIN SECTION 10
Lying in a Portion of the SW1/4 of the NE1/4
Section 10, Township 5 North, Range 4 West of the
Boise Meridian, Canyon County, Idaho
2014



SCALE: 1" = 1000'

LEGEND

- Section Line
- Easement Line
- Centerline
- Nearest Top of Bank of D-Line Canal
- Edge of Existing Road, Private and Irrigation

PROFESSIONAL LAND SURVEYOR LICENSED
13446
1/15/14
STATE OF IDAHO
SEAN P. SULLIVAN

DATE: January 15, 2014	FILE: 8413-01 SMITH 1-10.dwg

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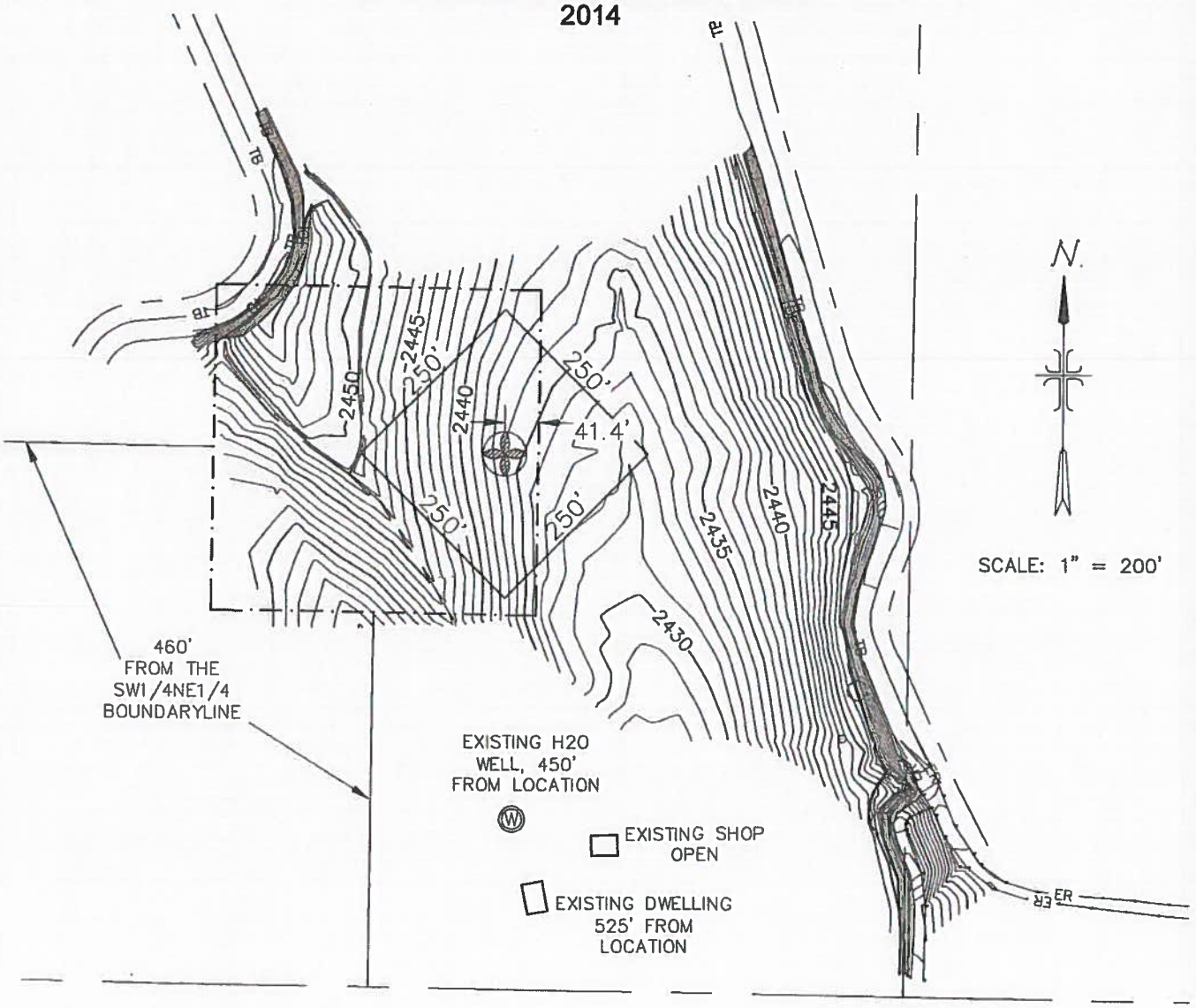
Surveyors • Planners

1103 West Main Street
Middleton, Idaho
208-585-5858

EXHIBIT MAP OF
SMITH 1-10
TOPOGRPAHIC CONTOURS

Lying in a Portion of the SW1/4 of the NE1/4
Section 10, Township 5 North, Range 4 West of the
Boise Meridian, Canyon County, Idaho
2014



PROFESSIONAL LAND SURVEYOR
LICENSED
13446
1/14/14
STATE OF IDAHO
SEAN P. SULLIVAN

DATE: January 14, 2014	FILE: 8413-01 SMITH 1-10 TOPO.dwg

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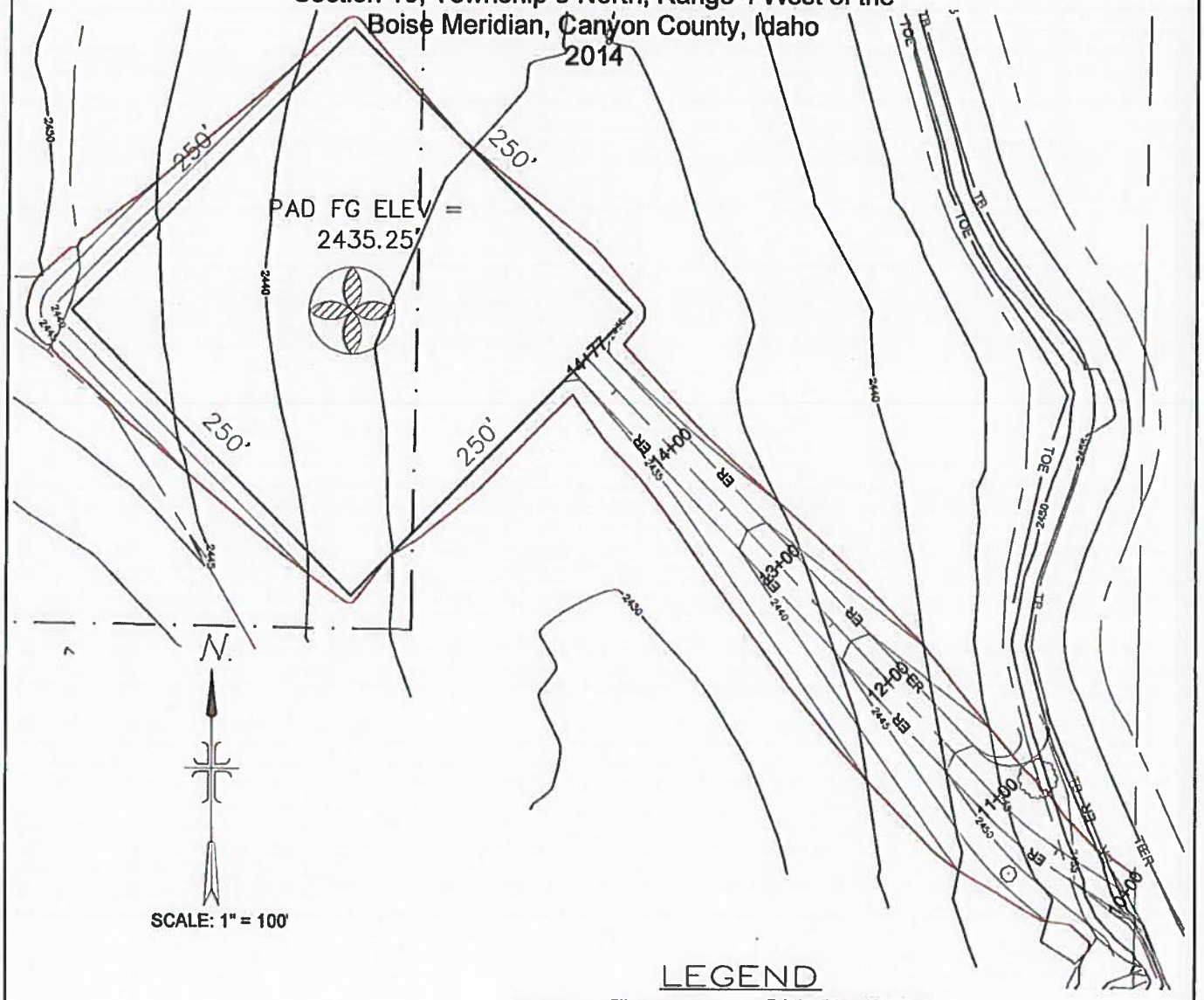
Middleton, Idaho
208-585-5858

EXHIBIT MAP OF
SMITH 1-10
PAD EXCAVATION QUANTITIES

Lying in a Portion of the SW1/4 of the NE1/4
Section 10, Township 5 North, Range 4 West of the
Boise Meridian, Canyon County, Idaho
2014



SCALE: 1" = 100'

LEGEND

ER	Existing Edge of Dirt Road
TB	Existing Top of Bank
ER	Proposed Access Road
2450	Existing Major Contour Line, Interval=5'
	Proposed Pad Site
	Limits of Pad Earthwork - 2:1 Cut Slopes, 3:1 Fill Slopes

PAD
TOTAL CUT = 8,570 CY
TOTAL FILL = 1,692 CY

ROAD
TOTAL CUT = 0 CY
TOTAL FILL = 5,886 CY

NET
CUT = 8,570 CY
FILL = 7,578 CY

DATE: January 15, 2014	FILE: 8413-01 SMITH 1-10 PAD.dwg

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1103 West Main Street
Middleton, Idaho
208-585-5858

2. Geological Prognosis

2.1. Anticipated Formation Tops

Trendwell West, Inc.
Canyon County,
Idaho

Smith #1-10	
10-5N-4W	
SWNE	
Ground Elevation Estimate	2,436'

3. Site Preparation

3.1. Access Roads

The proposed surface location is to be accessed by an upgraded private road off Waters Road about ¼ mile west of the intersection with Conway Road. The length of the road upgrade is approximately 3,400' on private property. See attached drawings 1.4.1, 1.4.2, and 1.4.5.

3.2. Location and Erosion Control

Appropriate grading, mechanical stabilization (rip-rap or hay bales), chemical stabilization (soil cement), and silt fencing will be used to prevent soil erosion. All cut and fill slopes are designed with a minimum 2: 1 grade to minimize runoff erosion and ensure mechanical stability. See attached drawing 1.4.4.

3.3. Cellar Design

An 8' deep round cellar box will be installed after the conductor is set and cemented.

3.4. Proposed Pit System

A closed-loop circulating system will be used for this well from spud. Zero discharge practices will be implemented, and all cuttings and waste fluid will be solidified and disposed of at an approved facility.

3.5. Sump

The location will have a 2' deep trench on downhill sides where the spoil from that trench will be used to construct an earthen berm around the location. The trench will act as a sump to collect rain and wash water for controlled release or appropriate disposal as required. See attached drawing 1.4.4.

3.6. Disposition of Drill Cuttings

After the cuttings are solidified, they will be disposed of at an approved land fill disposal site.

4. Well Construction

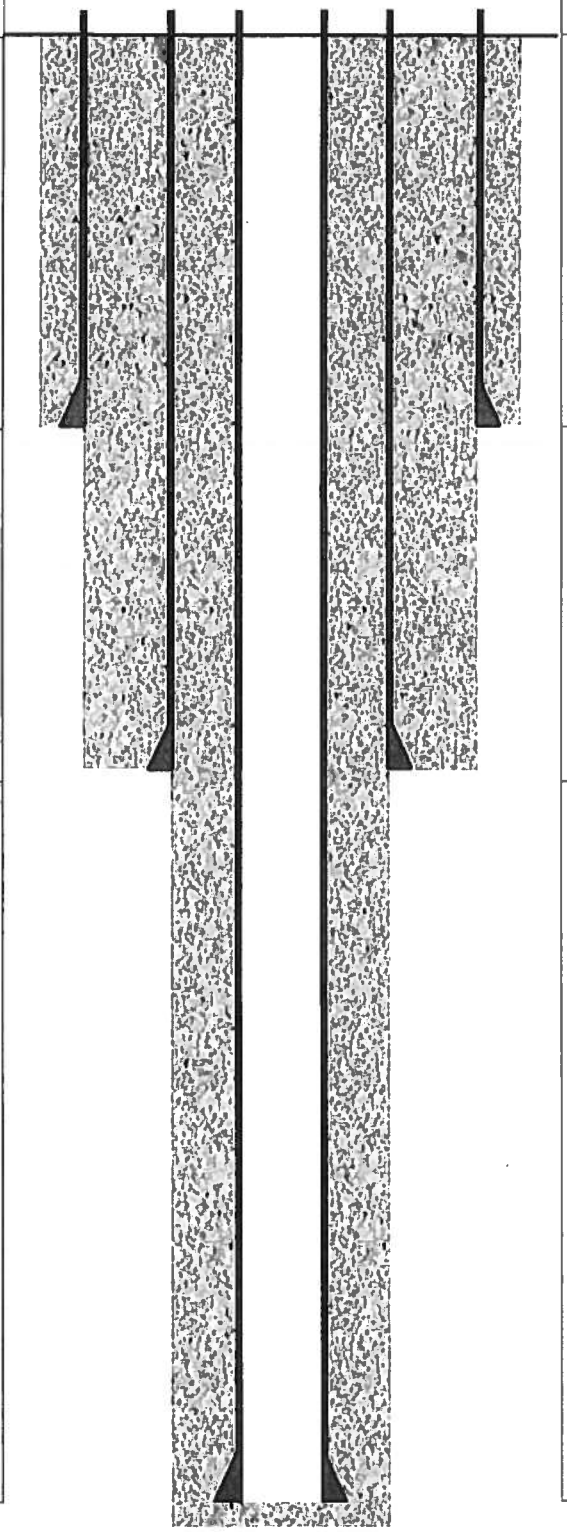
4.1. Casing and Cementing Program

Well Interval	Bit Size	Casing Size, Grade, and Weight	Casing Set Depth	Top of Cement	Cement Excess, Type, and Volume
Surface	17 ½"	13 3/8" H-40 48 lb/ft	130'	Cement to Surface	100% Class A 140 sks
Intermediate	10 5/8"	8 5/8" J-55 24 lb/ft	1,000'	Cement to Surface	60% Lead – Thixmix (13.1 ppg), 175 sks Tail – Surface Tail (14.8 ppg) 100 sks
Production	7 7/8"	5 ½" J-55 15.5 lb/ft	5,200'	Cement to Surface	60% Lead –TCI Lite (12.7 ppg) Tail – Gas Seal (16.0 ppg) 210 sks

See wellbore schematic on next page

4.2 Wellbore Schematic

Bit Size	Casing Size	Casing Grade/Weight	Set Depth	Cement Vol/Type	Top of Cement
17 ½"	13 3/8"	H-40 48 lb/ft	GL ref 130'	100% Excess 167 cuft 140 sks Class A 15.6 ppg 1.18 cuft/sk	Surface
10 5/8"	8 5/8"	J-55 24 lb/ft	GL ref 1,000'	60% Excess Lead: 323 cuft 175 sks Thixmix Tail: 136 cuft 100 sks Surface Tail	Surface
7 7/8"	5 ½"	J-55 15.5 lb/ft	GL ref 5,200'	60% Excess Lead: 910 cuft 500 sks TCI Lite Tail: 242 cuft 210 sks Gas Seal	Surface



4.3. Blow-Out Prevention

4.3.1. BOP Configuration

BOP Stack configuration includes an annular preventer and double ram preventers. The top most ram preventer will be fitted with variable ram blocks, the lower ram preventer will be fitted with blind ram blocks. A full-opening safety valve, inside BOP, and functioning wrench -specific to the pipe in use and only those specific to the pipe in use - are to be kept on the rig floor with easy access at all times .

4.3.2. BOP Testing

Test annular, rams, choke manifold, FOSV, and BOP when BOP is first nippled up on casinghead. Low-pressure test to 250 psi and high-pressure test to 3,000 psi (100% of SM wellhead), except for annular. Test annular preventer to 2,100 psi (70% of 3,000 psi rating). Test the kelly hose and standpipe back to pump isolation valves to 200 psi above pop off setting or minimum of 3,000 psi. All tests must hold for five minutes. Retest specific component each time a seal is broken. Work BOP's and flush choke lines each trip. Tighten BOP and wellhead bolts every 3 days. Non-ported float valves to be used in BHA after surface casing set.

During drilling and completion operations, the ram-type blow-out preventer shall be function tested by closing on the drill pipe once every seven (7) days. Independently powered accumulators or accumulators and pumps shall maintain a pressure capacity reserve at all times to provide for repeated operation of hydraulic preventers. All tests may be conducted using a test plug. Tests shall be recorded by charts, if required by the Supervisor.

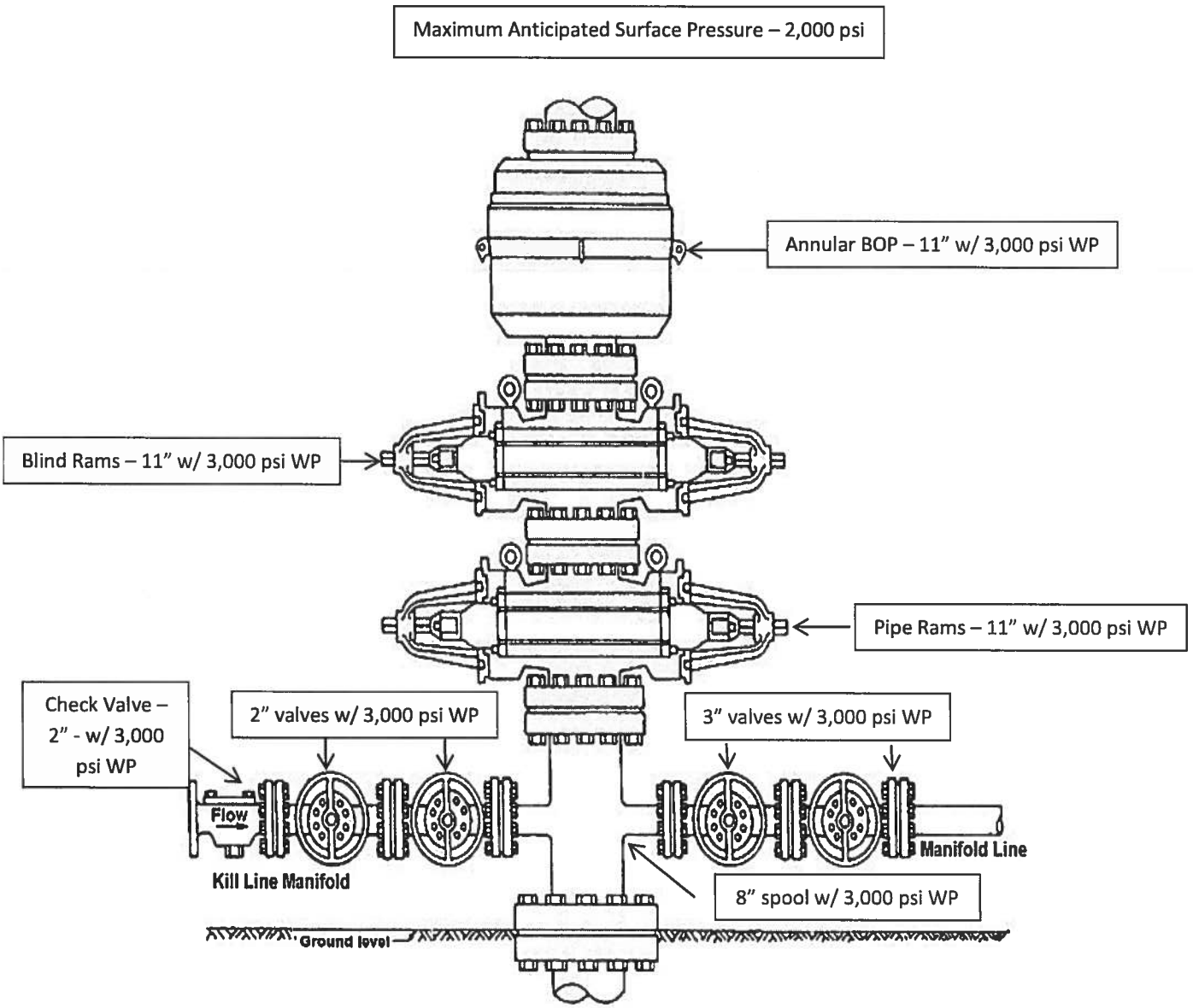
See BOP diagram on next page

4.3.1 Blow Out Prevention - Configuration

Trendwell West, Inc.

BOP Configuration

Canyon County, Idaho – Smith 1-10



4.4. General Mud Program

GENERAL DRILLING/MUD OVERVIEW

INTERVAL I: 0 – 130'

1.	Hole size	: 17 ½"
2.	Casing size	: 13 3/8"
3.	Mud type	: Low solids, nondispersed polymer (LSND)
4.	Total mud volume	: 200 bbls (150 bbls surface volume)
5.	Directional Program	: Vertical Hole
6.	Interval Duration	: 1 day
7.	Drilling Challenges	: Surface Alluvium and Clays

INTERVAL II: 130'- 1,000' MD

1.	Hole size	: 10 5/8"
2.	Casing size	: 8 5/8"
3.	Mud type	: LSND DMA Polymer System
4.	Total mud volume	: 400 bbls. (250 bbls surface volume)
5.	Directional Program	: Vertical/Straight Hole
6.	Interval Duration	: 3 days
7.	Drilling Challenges	: Surface Unconsolidated Sands/Swelling Clays

INTERVAL III: 1,000'- 5,200' MD

1.	Hole size	: 7 7/8"
2.	Casing size	: 5 ½"
3.	Mud type	: Freshwater LSND DMA System
4.	Total mud volume	: 650 bbls. (250 bbls surface volume)
5.	Directional Program	: Vertical/Straight Hole
6.	Interval Duration	: 9 days
7.	Drilling Challenges	: Swelling clays, shales, possible gas influx

GENERAL MUD PROGRAM NOTES/REMARKS

I. Mud weights to be adjusted as dictated by hole conditions or formation pressure, especially through the 7 7/8" production interval. Maintain minimum mud weights possible for safe hole conditions, and to minimize the severity of lost circulation and differential sticking tendencies.

II. Implement an effective closed-loop solids removal program, to include linear shakers, mud cleaner, and centrifuge. Drill solids should be stabilized with Zorbix, Sawdust or other appropriate reagent, and disposed offsite to local landfill (as approved).

III. Continuous Mud Engineer will be utilized.

IV. Monitor all drilling parameters on a continual basis to determine safe, cost-effective drilling operations and mud treatments.

V. Maintain an adequate supply of Barite and LCM additives on location at all times. Maximum mud weights of ~10.5ppg may be anticipated, and the potential for significant whole mud losses should be expected, especially in the shallow hole intervals and through any volcanics.

VI. The area of interest is near an active Geothermal resource that is being developed for electricity generation. Bottom hole temperatures of over 200°F should be expected, therefore mud treatments and cement should be considered to accommodate elevated temperatures.

17 1/2" Surface Interval			
MD (ft)	0 to 130 feet		
Drilling Fluid System	Ca++ Fresh Water		
Interval Target Mud Properties			
Mud Weight (ppg)	8.4 to 8.6	Plastic Viscosity (cp)	4 to 10
Funnel Viscosity (s/qt)	26 to 32	Yield Point (lb/100 ft$^{2)}$	4 to 10
pH	8.0 to 9.0	Ca+ (mg/L)	700 to 1,100
API FL (ml/30 min)	Natural	CaCl (mg/L)	<1,200

Safety Recommendations:

- Ensure all proper PPE is used when handling products.
- Wear a respirator while mixing all drilling additives.
- Review MSDS prior to use of unfamiliar materials.

Interval Objective:

- Drill a **17 1/2"** hole from **0 to 130** ft (MD) and set **13 3/8"** casing.
- The recommended fluid system for the **17 1/2"** interval is **Ca++ Water.**

Mud Weight:

- Mud density in this interval should be unweighted and **8.4-8.6.**
- Use solids control equipment throughout interval and dilute if SCE is ineffective.

System Maintenance:

- Spud in with fresh water and start additions of Gypsum.
- Follow (System Setup) protocols if using recycled WBM from a prior well

- If gravel is encountered, Mud up and raise Vise to > **60** s/qt.
- Use PHPA high viscosity hole cleaning sweeps every 150-250 ft while drilling.
- Add Soap and SAPP sticks (alternate *Yi* stick every connection) for bit balling if encountered
- Mud rings may be avoided by additions of SAPP.
- Maintain pH between **8.0-9.0.**
- Use all available solids control equipment to maintain drill solids as low as possible.

System Setup:

- Move 250 bbls of prior well transferred mud into pits and add 250 bbls water (if available)

10 5/8" Intermediate Interval			
MD (ft)	130 to 1,000 feet		
Drilling Fluid System	Ca++ - Fresh water base low solids, nondispersed polymer system		
Interval Target Mud Properties			
Mud Weight (ppg)	8.6 to 9.4	Plastic Viscosity (cp)	8 to 18
Funnel Viscosity (s/qt)	40 to 55	Yield Point (lb/100 ft$^{2)}$	8 to 18
pH	8.5 to 9.5	Ca+ (mg/L)	700 to 1,100
API FL (ml/30 min)	< 8	CaCl (mg/L)	<1,200

Safety Recommendations:

- Caustic Soda will be utilized throughout this section to maintain pH and alkalinities, so ensure all proper PPE is used when handling (face shield, rubber gloves, and apron).
- Wear a respirator wh ile mixing all drilling additives .
- Review MSDS prior to use of unfamiliar materials.

Interval Objective:

- Drill a **10 5/8"** hole from **130-1,000** ft (MD) and run **8 5/8"** casing.
- The recommended fluid system for the end of the **10 5/8"** interval from **130-1,000** ft (MD) is **Ca++ LSND.**

Mud Weight:

- Mud density in this interval should range from **8.6-9.4** ppg.
- Mud weight should be increased as needed to assist with shale ECD's.
- Use solids control equipment as needed.
- Maintain expected MW or as hole conditions dictate per Drilling Engineer and/or Company Man.
- If higher MW is required and lower solids are required, raise MW with additions of barite.

See calculation below: Equation: Sacks of Barite (100 lb sacks) = Total Volume x 14.9 x (Final MW (ppg) - Original MW (ppg))/(35 - Final MW (ppg))

Example: Sacks of Barite (100 lb sacks) = 1000 bbls x 14.9 x (10.0 ppg - 9.0 ppg)/(35 - 10.0 ppg) = 596 sacks

- Take continuous MW readings while mixing barite.

System Maintenance:

- Raise pH **(8.5 -9.5)** with caustic soda through the Chem barrel.
- Raise the total hardness to **700-1100 mg/I** with additions of Gypsum to control sloughing shales.
- A sudden drop in pH could signal the presence of C02 in the formation and immediate action will be required to counteract the C02. If C02 is encountered, pH will decrease, the bicarbonate reading on the alkalinity mud test will increase, and viscosity will decrease.
- Add Lime as needed over a circulation and running Caustic through the chemical barrel until pH is back to **8.5-9.5.**
- Maintain FV around **40-55** s/qt.
- Begin lowering API FL to **<8** ml/30 min with the addition of FLA.

Solids Control:

- Use the best combination of screens on the shakers, DeSander, DeSilter, and Centrifuge for the system.
- If available, run centrifuge in mechanical stripping mode constantly to maintain solids content at or below **8%.** (Note: Running centrifuge in full mechanical stripping mode will strip HGS from the system - additional barite will be needed after running centrifuge in this manner.) If the centrifuge is ineffective in stripping ultrafine materials, the practice of dump and dilute is the last resort.
- Solids, viscosity, and density should all be controlled with the use of the centrifuge and product additions.
- Ensure solids control equipment is functioning properly hourly.
- Any recommendation for screen changes (for size or condition), must be discussed with the Solids Control personnel, CM, and the Fluid Engineer.

Potential Problems:

- High ROPs are common in this interval. Keep an eye on drill solids increasing and be sure to use proper solids control equipment when necessary to maintain low drill solids.
- Make sure properties are maintained and hole cleaning is not an issue. If hole cleaning becomes an issue, adjust properties accordingly.
- Proper drilling practices are also an integral part of hole cleaning. Reciprocating the full

stand prior to connection will aid in hole cleaning and scrape extra filter cake off the well bore.

- Additions of Cantone will inhibit shale issues and produce a quality filter cake.
- Watch for lost circulation risks and plan ahead accordingly.
- Gel strengths, MBTs, and rheology should be maintained for borehole stability.

7 7/8" Production Interval			
MD (ft)	1,000 to 5,200 feet		
Drilling Fluid System	Ca++ - Fresh water base low solids, nondispersed polymer system		
Interval Target Mud Properties			
Mud Weight (ppg)	8.6 to 10.5	Plastic Viscosity (cp)	8 to 18
Funnel Viscosity (s/qt)	40 to 55	Yield Point (lb/100 ft$^{2)}$	11 to 20
pH	8.5 to 9.5	Ca+ (mg/L)	700 to 1,100
API FL (ml/30 min)	<8	CaCl (mg/L)	<1,200

Safety Recommendations:

- Caustic Soda will be utilized throughout this section to maintain pH and alkalinities, so ensure all proper PPE is used when handling (face shield, rubber gloves, and apron).
- Wear a respirator while mixing all drilling additives.
- Review MSDS prior to use of unfamiliar materials.

Interval Objective:

- Drill a **7 7/8"** hole from **1,000-5,200** ft (MD) and run **5 1/2"** casing.
- The recommended fluid system for the end of the **7 7/8"** interval from **1,000-5,200** ft (MD) is **Ca++ LSND.**

Mud Weight:

- Mud density in this interval should range from **8.6-10.5** ppg.
- Mud weight should be increased as needed to assist with shale ECD's.
- Use solids control equipment as needed.
- Maintain expected MW or as hole conditions dictate per Drilling Engineer and/or Company Man.
- If higher MW is required and lower solids are required, raise MW with additions of barite. See calculation below: Equation: Sacks of Barite (100 lb sacks) = Total Volume x 14.9 x (Final MW (ppg) - Original MW (ppg))/(35 - Final MW (ppg))
  Example: Sacks of Barite (100 lb sacks) = 1000 bbls x 14.9 x (10.0 ppg - 9.0 ppg)/(35 - 10.0 ppg) = 596 sacks

- Take continuous MW readings while mixing barite.

System Maintenance:

- Raise pH **(8.5 -9.5)** with caustic soda through the Chem barrel.
- Raise the total hardness to **700-1100 mg/I** with additions of Gypsum to control sloughing shales.
- A sudden drop in pH could signal the presence of $C0_2$ in the formation and immediate action will be required to counteract the $C0_2$. If $C0_2$ is encountered, pH will decrease, the bicarbonate reading on the alkalinity mud test will increase, and viscosity will decrease.
- Add Lime as needed over a circulation and running Caustic through the chemical barrel until pH is back to **8.5-9.5.**
- Maintain FV around **40-55** s/qt.
- Begin lowering API FL to **<8** ml/30 min with the addition of FLA.

Solids Control:

- Use the best combination of screens on the shakers, DeSander, DeSilter, and Centrifuge for the system.
- If available, run centrifuge in mechanical stripping mode constantly to maintain solids content at or below **8%.** (Note: Running centrifuge in full mechanical stripping mode will strip HGS from the system - additional barite will be needed after running centrifuge in this manner.) If the centrifuge is ineffective in stripping ultrafine materials, the practice of dump and dilute is the last resort .
- Solids, viscosity, and density should all be controlled with the use of the centrifuge and product additions.
- Ensure solids control equipment is functioning properly hourly.
- Any recommendation for screen changes (for size or condition), must be discussed with the Solids Control personnel, CM, and the Fluid Engineer.

Potential Problems:

- High ROPs are common in this interval. Keep an eye on drill solids increasing and be sure to use proper solids control equipment when necessary to maintain low drill solids.
- Make sure properties are maintained and hole cleaning is not an issue. If hole cleaning becomes an issue, adjust properties accordingly.
- Proper drilling practices are also an integral part of hole cleaning. Reciprocating the full stand prior to connection will aid in hole cleaning and scrape extra filter cake off the well bore.
- Additions of Contone will inhibit shale issues and produce a quality filter cake .
- Watch for lost circulation risks and plan ahead accordingly.

- Gel strengths, MBTs, and rheology should be maintained for borehole stability.

4.5. Electric Logging Program

The intended electric wireline logging program at total depth (TD) will include:

- High Definition Induction Log
- Compensated Z-Densilog
- Compensated Neutron Log
- Gamma Ray Log
- Caliper Log.

We intend to use Baker Hughes for wireline logging; however this may change subject to availability. Logs will be made available to IDL as required.

5. Completion

Method of completion will be determined subsequent to review of open-hole log data and cased hole cement bond logs (CBL). If the well is to be completed, it will be equipped with a 3,000 psi WP tree with appropriate spools and valving for access to each annular and tubular space. Also, if the well is completed, we anticipate using 2 7/8" API J-55 6.5 lb/ft production tubing. Hydraulic fracturing is not contemplated and the expectation is that these potential reservoirs will respond to conventional completion techniques.

6. Abandonment Procedure

If the well is nonproductive, the well will be plugged with cement in accordance with appropriate State of Idaho regulations as described in IDAPA 20.07.02 section 320 – Well Plugging.

7. Reclamation of Drill Site

Reclamation will be conducted in accordance with IDAPA 20.07.02.325. To achieve those requirements, Trendwell West, Inc. intends to address reclamation through a multistep process which is outlined below. As provided for in IDAPA 20.07.02.325.08, Trendwell West, Inc. will enter into a Surface Use Agreement with the landowner the terms of which will ensure that the site is left in a stable, non-eroding condition as required.

1. Re-establish slope stability, surface stability, and desired topographic diversity.
2. Maintain the integrity of the topsoil and subsoil (where appropriate and not otherwise dictated by the Surface Use Agreement)

3. Prepare site for revegetation upon completion of well activities - plugging/abandonment.
    a) Redistribute soil materials in a manner similar to the original vertical profile.
    b) Provide suitable conditions to support the long term establishment and viability of the desired plant community.
    c) Protect seed and seedling establishment (e.g. erosion control matting, mulching, hydro-seeding, surface roughening, fencing, etc. to be determined based upon site specific conditions
4. Establish a desired self-perpetuating native plant community based upon region specific guidance available from NRCS
    a) Establish species composition, diversity, structure, and total ground cover appropriate for the desired plant community
    b) Select genetically appropriate and locally adapted native plant materials based on the site characteristics and setting.
    c) Select non-native plants only as a short term and non-persistent alternative to native plant materials. Ensure the non-natives are designed to aid in the re-establishment of native plant communities. Revegetate in accordance with best practices described below:
    d) Plant communities shall be evaluated annually for two years to ensure revegetation success as determined by IDAPA 20.07.02.325