3R - 098

P&A WORKPLAN

6/10/2013

CONESTOGA-ROVERS
& ASSOCIATES

6121 Indian School Road, NE Suite 200
Albuquerque, NM, USA 87110
Telephone: (505) 884-0672 Fax: (505) 884-4932
http://www.craworld.com

June 10, 2013 Reference No. 074930

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South Saint Francis Dr.
Santa Fe, NM 87505

Re: ConocoPhillips Company Shepherd and Kelsey No. 1E Site Monitoring Well Plugging and Abandonment Notification
API No. 30-045-24316
NMOCD No. 3R-098
CRA Project No. 074930

Dear Mr. von Gonten:

This letter discusses monitor well plugging and abandonment activities conducted by Conestoga-Rovers & Associates (CRA) at the ConocoPhillips Shepherd and Kelsey No. 1E (Site) located near the intersection of New Mexico Highway 64 and County Road 5097 in Bloomfield, New Mexico. A Site Location Map and a Site Layout Map have been included as **Figures 1** and **2**, respectively. This work was completed on April 25, 2013 after receiving approval from the New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division (NMOCD) in a letter dated November 9, 2012 granting remediation site closure, and a letter from the New Mexico Office of the State Engineer (NMOSE) dated April 16, 2013 granting approval for the abandonment of monitor wells with Specific Plugging Conditions. Copies of these letters are included as **Appendix A** and **Appendix B**, respectively.

On April 25, 2013, a total of four monitor wells were plugged and abandoned by National Exploration, Wells, and Pumps (National EWP) of Peralta, New Mexico. Grout, consisting of Type I/II Portland cement and 3-5% bentonite, was pumped from the bottom to the top of the casing through a 1-inch tremie pipe into each well. Surface completions were removed and each casing was cut to at least one foot below ground surface (bgs). Rebar was placed above the cut casing to provide reinforcement, and grout and/or concrete was added to approximately three to six inches bgs. Native soil was placed on top to complete the plugging and abandonment of each monitor well.

Specifications for all wells including well identification number, casing diameter, total depth, depth to groundwater, location (latitude/longitude), and surface completion type were field checked during plugging and abandonment activities. The theoretical and actual grout volumes used in each monitor well were calculated and recorded. This information is included in **Table** 1. Well Plugging Records were submitted to the NMOSE by National EWP on April 30, 2013, and received on May 3, 2013. Well Plugging Records are included as **Appendix C**.

CONESTOGA-ROVERS & ASSOCIATES

6121 Indian School Road, NE Suite 200
Albuquerque, NM, USA 87110
Telephone: (505) 884-0672 Fax: (505) 884-4932
http://www.craworld.com

Please contact Kelly Blanchard at 505.884.0672 or keblanchard@craworld.com if you have any questions or require additional information.

Yours Truly,

CONESTOGA-ROVERS & ASSOCIATES

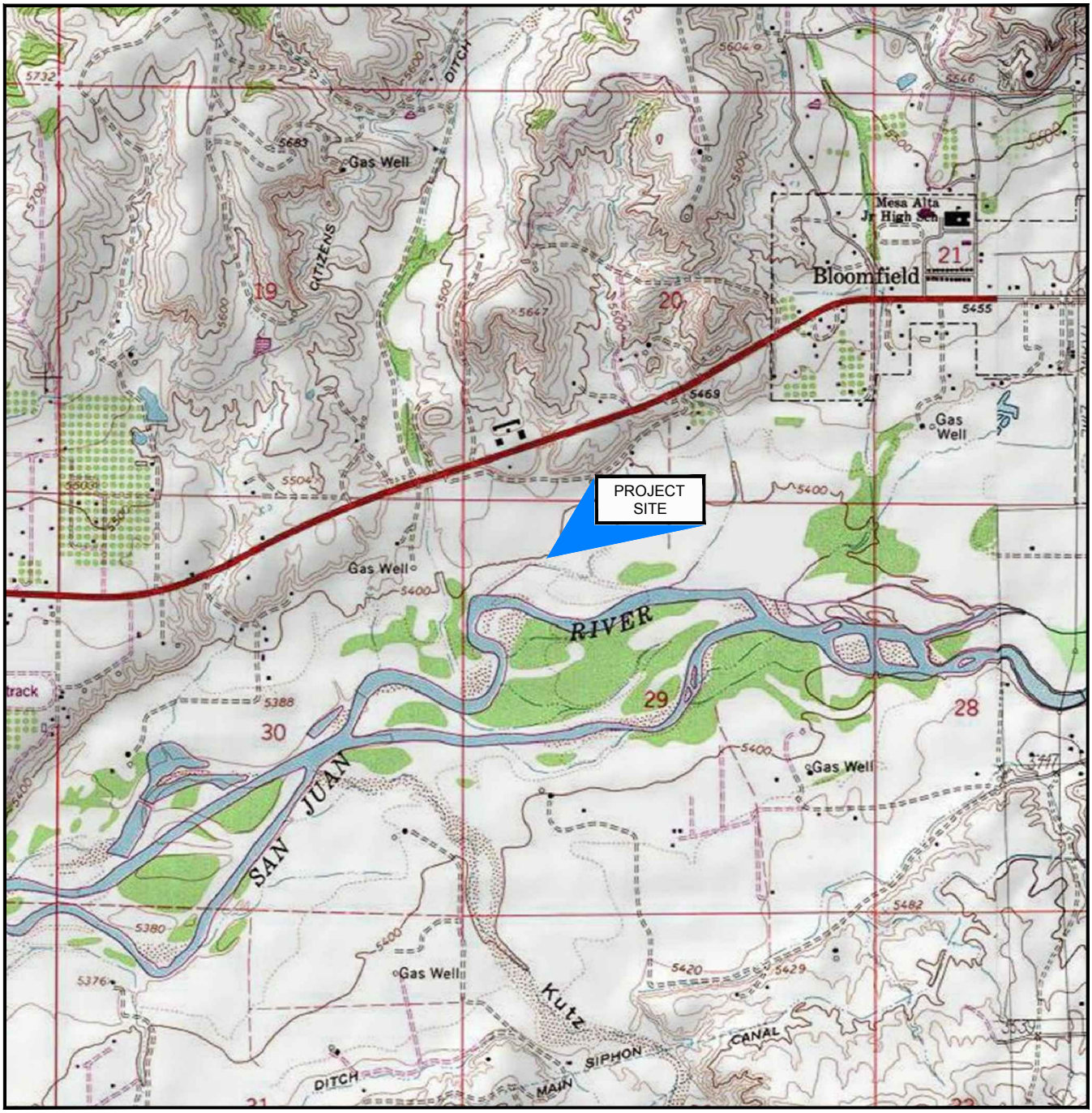
Kelly E. Blanchard
Project Manager

KB/cd/1
Encl.

cc: Terry Lauck, ConocoPhillips Company (electronic only)

FIGURES

SITE LOCATION MAP AND SITE LAYOUT MAP



SOURCE: USGS 7.5 MINUTE QUAD
"HORN CANYON AND BLOOMFIELD, NEW MEXICO"

N

0 1000 2000ft

Figure 1

SITE LOCATION MAP
SHEPHERD AND KELSEY No. 1E NATURAL GAS SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

CRA

074930-95(003)GN-DL003 DEC 6/2011

ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN
SHEPHERD AND KELSEY NO. 1E NATURAL GAS WELL SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

CRA

074930-95(003)GN-DL001 DEC 6/2011

TABLE

WELL SPECIFICATIONS

Well Specifications for Plugging and Abandonment Operations
ConocoPhillips Company Shepherd and Kelsey No. 1E
San Juan County, New Mexico

Well #	Well Type	Casing Diameter (in)	Total Depth (feet bgs)	Approx. Groundwater level (feet bgs)	Theoretical grout volume (gallons)	Actual grout volume (gallons)	Approx. Latitude (N)	Approx. Longitude (W)	Surface Completion Type	Screened Interval feet (bgs)	NMOSE Permit
MW-01	MW	2	8.78	4.82	1.40	3.00	36°42'06.51"	108°01'11.03"	temporary stick-up, no concrete pad	2.5' - 10'	Not Permitted
MW-02	MW	2	19.89	3.94	3.18	6.00	36°42'07.56"	108°01'11.35"	stick-up on 2'x2' concrete pad	3' - 18'	Not Permitted
MW-03	MW	2	20.02	4.43	3.20	5.00	36°42'06.22"	108°01'10.68"	stick-up on 2'x2' concrete pad	3' - 18'	Not Permitted
MW-04	MW	2	20.38	5.54	3.26	4.00	36°42'06.38"	108°01'13.09"	stick-up on 2'x2' concrete pad	3.7' - 18.7'	Not Permitted

All wells are non-artesian and breach only one aquifer
MW = Groundwater Monitoring Well
bgs = below ground surface
TD = Total Depth

APPENDIX A

NOVEMBER 9, 2012 NMOCD FORMAL REQUEST FOR SITE CLOSURE AND NO FURTHER ACTION STATUS LETTER

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

NOVEMBER 9, 2012

Mr. Terry Lauck
Site Manager
ConocoPhillips Company
Risk Management & Remediation
420 South Keeler Avenue
Bartlesville, OK 74004

Re: Site Closure Request of July 22, 2010 for Federal No. 15 (3R-087)
Site Closure Request of July 22, 2010 for Shepherd & Kelsey No. 1 (3R-097)
Site Closure Request of March 22, 20120 for Shepherd & Kelsey No. 1E (3R-098)

Dear Mr. Lauck:

After meeting with you on November 6, 2012, and after conducting a file review, the Oil Conservation Division (OCD) has determined that ConocoPhillips has completed corrective action for releases as required by 19.15.29.11 NMAC at the three remediation sites listed below.

3R-087	ConocoPhillips Federal No. 15
3R-097	ConocoPhillips Shepherd & Kelsey No. 1
3R-098	ConocoPhillips Shepherd & Kelsey No. 1E

OCD has closed these three cases in its database. ConocoPhillips may plug and abandon all monitor wells and remove all remediation equipment. Please include a copy of this closure approval letter when you submit your Annual Ground Water Monitoring Report.

If you have any questions, please contact Jim Griswold at 505-476-3465. Thank you for your cooperation.

Sincerely,

Glenn von Gonten
Senior Hydrologist

GvG/gvg

1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3440 • Fax (505) 476-3462 • www.emnrd.state.nm.us

APPENDIX B

APRIL 16, 2013 NMOSE APPROVAL FOR ABANDONMENT OF MONITOR WELLS WITH SPECIFIC PLUGGING CONDITIONS

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John Bemis
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

NOVEMBER 9, 2012

Mr. Terry Lauck
Site Manager
ConocoPhillips Company
Risk Management & Remediation
420 South Keeler Avenue
Bartlesville, OK 74004

Re: Site Closure Request of July 22, 2010 for Federal No. 15 (3R-087)
Site Closure Request of July 22, 2010 for Shepherd & Kelsey No. 1 (3R-097)
Site Closure Request of March 22, 20120 for Shepherd & Kelsey No. 1E (3R-098)

Dear Mr. Lauck:

After meeting with you on November 6, 2012, and after conducting a file review, the Oil Conservation Division (OCD) has determined that ConocoPhillips has completed corrective action for releases as required by 19.15.29.11 NMAC at the three remediation sites listed below.

3R-087	ConocoPhillips Federal No. 15
3R-097	ConocoPhillips Shepherd & Kelsey No. 1
3R-098	ConocoPhillips Shepherd & Kelsey No. 1E

OCD has closed these three cases in its database. ConocoPhillips may plug and abandon all monitor wells and remove all remediation equipment. Please include a copy of this closure approval letter when you submit your Annual Ground Water Monitoring Report.

If you have any questions, please contact Jim Griswold at 505-476-3465. Thank you for your cooperation.

Sincerely,

Glenn von Gonten
Senior Hydrologist

GvG/gvg

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
AZTEC

Scott A. Verhines, P.E.
State Engineer

100 Gossett Drive, Suite A
Aztec, New Mexico 87410

April 16, 2013

Conestoga-Rovers & Associates
ATTN: Mrs. Kelly Blanchard
6121 Indian School Road NE, Suite 200
Albuquerque, NM 87110

RE: Well Plugging Plan of Operations for ConocoPhillips Shepherd and Kelsey 1E; near Bloomfield, New Mexico

Dear Mrs. Blanchard:

After reviewing the Well Plugging Plan of Operations submitted to obtain OSE approval for the abandonment of four monitoring wells located at the referenced facility, which was received on April 10, 2013, the OSE is returning a favorable approval with Specific Plugging Conditions (attached). Please pay special attention to Specific Plugging Condition number 3, which requires the hydration of the proposed bentonite additive, with the correct amount of water, before mixing into the cement slurry. In addition, minor annotations have been made on the plugging plan form submitted.

Please submit a completed Well Plugging Report, along with a copy of the approved plugging conditions, describing the actual abandonment process and itemized materials used to the address referenced in the attached approval conditions within 20 days after completion of well plugging.

Should you have any further questions or concerns regarding this correspondence, feel free to contact me at 505-334-4571.

Sincerely,

Blaine Watson

Blaine A. Watson, P.G.
District V Manager

Enclosures

cc: Aztec Reading (cover only)
WATERS

Office of the State Engineer 1907-2007
Interstate Stream Commission
A Century of Service to New Mexico

DISTRICT 5

Scott A. Verhines, P.E.

NEW MEXICO STATE ENGINEER

Kelly Blanchard of Conestoga-Rovers & Associates (as consultant for ConocoPhillips Company) has identified 4 monitoring wells (no OSE File numbers), as tabulated below, to be plugged in accordance with NMOCD requirements for a discontinued monitoring well network. National Exploration Wells and Pumps (formerly WDC) will perform the plugging under well driller license #WD-1210. Most of the wells are believed to have semi-typical monitoring well construction, including a bentonite annular seal above the sand pack, with a cement/bentonite grout to ground surface. Depth to water is estimated to be approximately 2 to 5 feet below land surface.

Location: ConocoPhillips Shepherd and Kelsey 1E well site, southwest of Bloomfield, (San Juan County), New Mexico.

Approximate well coordinates: See tabulated data below.

Well Name	Inside Diameter (inches)	Depth to Water (feet)	Total Depth (feet)	Latitude North	Longitude East
MW-1	2	4.31	10	36.7018	108.0197
MW-2	2	2.01	18.3	36.7021	108.0198
MW-3	2	4.09	18.1	36.7017	108.0196
MW-4	2	5.07	18.7	36.7018	108.0203

NMOCD project manager: Jim Griswold/Glenn VonGonten 505-479-3465, NMOCD approval letter dated 11/9/12 was attached.

Specific Plugging Conditions of Approval for five monitoring wells, ConocoPhillips Shepherd and Kelsey 1E well site (rural Bloomfield), San Juan County, NM

1. Water well drilling and other well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.

2. Theoretical volume of sealant required for abandonment of 2-inch diameter casings is approximately 0.16 gallons per foot. The plugging plan of operations listed approximately 65.1 feet for the total footage in four 2-inch diameter wells. For a total depth of 65.1 feet in 2-inch wells, the required plugging volume should not be less than 10.62 gallons. Total minimum volume of sealant required shall be calculated upon sounding the actual pluggable depth of the wells and multiplying by the correct volume factor for the casing diameter.

3. The Well Plugging Plan of Operations submitted requests the use of Portland Type I/II cement with a 3-5% bentonite additive. Portland cement has a fundamental water demand of 5.2 gallons water per 94-lb. sack of cement, and this plan (as submitted) proposed 7.4 gallons of water per 94-lb. sack of cement. Use of mix water increment in excess of the fundamental water demand results in a thinned mix of cement prone to shrinkage that may disrupt effective sealing and hydraulic separation. AWWA

Well Standards so allow use of a maximum of 6.0 gallons water per 94-lb. sack of cement if necessary for pumpability of neat cement grout. A note to allow the use of no more than 6.0 gallons of water per 94-lb. sack of cement was added to the proposed plugging plan. This volume excludes the additional water needed to separately hydrate the bentonite additive, as discussed below.

Pure bentonite powder ("90 barrel yield") is allowed as a cement additive under NMOSE / AWWA guidelines, and neither granular bentonite nor extended-yield bentonite shall be mixed with cement for the purpose of this plugging. When supplementing a cement slurry with bentonite powder as requested, water demand for the mix increases at a rate of approximately 0.65 gallons of water for each 1% increment of bentonite by dry weight cement (above a water demand of not to exceed 6.0 gallons water per 94-lb. sack of cement). Therefore, a 3% bentonite/cement mix may contain up to 7.95 gallons of water (total) per 94-lb. sack of cement. This mixture would consist of 1.95 gallons of water used to make the bentonite slurry and 6.0 gallons of water for mixing one 94-lb. sack of cement. If a 5% bentonite additive rate is used, the volume of water for the bentonite slurry would be 3.25 gallons.

The bentonite must be hydrated separately with its required increment of water before being mixed into the wet cement. If water is otherwise added to the combination of dry ingredients or the dry bentonite is blended into wet cement, the alkalinity of the cement will restrict the yield of the bentonite powder, resulting in excess free water in the slurry and excessive cement shrinkage upon curing..

4. Placement of the sealant within the wells shall be by pumping through a tremie pipe extended to near well bottom, and kept below top of the slurry column as the well is plugged from bottom-upwards in a manner that displaces the standing water column.

5. Prior to, or upon completion of plugging, the well casing may be cut-off below grade as necessary to allow approved construction onsite, provided a minimum 6-inch thickness of reinforced abandonment grout or concrete completely covers the top of the cut-off casing. More stringent local building codes may apply.

6. Should the NMOCD, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

7. NMOSE witnessing of the plugging will not be required, but shall be facilitated if a NMOSE observer is onsite. NMOSE witnessing may be requested during normal work hours by calling the District 5 NMOSE Office at 505-334-4571, at least 48-hours in advance. NMOSE inspection will occur dependent on personnel availability.

8. Well Plugging Record(s) (available at: http://www.ose.state.nm.us/PDF/WellDrillers/WD-11.pdf) itemizing the actual abandonment process and materials used shall be filed with the State Engineer (NMOSE, P.O. Box 25102 - 407 Galisteo Street - Room 102, Santa Fe, NM 87504-5102), within 20 days after completion of well plugging. Please attach one copy of these plugging conditions.

The NMOSE Well Plugging Plan of Operations notices dated April 8, 2013, with any OSE annotations, are hereby approved with the aforesaid conditions applied, when signed by an authorized designee of the State Engineer:

Blaine Watson Date: 4-16-2013

Blaine Watson, NMOSE District 5, Water Rights Division

CONESTOGA-ROVERS
& ASSOCIATES

Albuquerque, NM, USA 87110
Telephone: (505) 884-0672 Fax: (505) 884-4932
http://www.craworld.com

April 8, 2013

Reference No. 074930

Mr. Blaine Watson
New Mexico Office of the State Engineer
100 Gossett Dr.
Suite A
Aztec, NM 87410

Dear Mr. Watson:

Re: ConocoPhillips Company Shepherd and Kelsey Number 1E Well Plugging Plan of Operations

Conestoga-Rovers and Associates, on behalf of ConocoPhillips Company Risk Management and Remediation, herein submits one copy of the above-referenced document, for Monitor Wells located at the Shepherd and Kelsey Number 1E Natural Gas Production Wellsite in San Juan County, New Mexico. Work is scheduled to begin during the week of April 22, 2013 pending your approval of the attached Well Plugging Plan of Operations Forms.

If you have any questions or require additional information, please contact me at (505) 884-0672 or keblanchard@craworld.com.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager

KB/cjg/01

Encl.

cc: Terry Lauck, ConocoPhillips (electronic only)

WELL PLUGGING PLAN OF OPERATIONS

2013 APR 10 AM 10:54

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP:

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: **See Attached Table**

Name of well owner: ConocoPhillips Risk Management and Remediation

Mailing address: 1380G Plaza Office Bldg, 315 Johnstone AVE

City: Bartlesville State: Oklahoma Zip code: 74004

Phone number: (918) 661-0935 E-mail: terry.s.lauck@conocophillips.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: National Exploration Wells and Pumps

New Mexico Well Driller License No.: WD1210 Expiration Date: ~~12~~ 10/31/2013

IV. WELL INFORMATION:

Note: A copy of the existing Well Record for the well to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: **See Attached Table** deg, _____ min, _____ sec
Longitude: _____ deg, _____ min, _____ sec, NAD 83

2) Reason(s) for plugging well: Request from New Mexico Oil Conservation Division to plug and abandon all site wells. See attached letter.

3) Was well used for any type of monitoring program? Yes If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? No If yes, provide additional detail, including analytical results and/or laboratory report(s):

5) Static water level: **See Attached Table** feet below land surface / feet above land surface (circle one)

6) Depth of the well: **See Attached Table** feet

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2013 APR 10 AM 10: 55

7) Inside diameter of innermost casing: **See Attached Table** inches.

8) Casing material: PVC

9) The well was constructed with:

_____ an open-hole production interval, state the open interval: _____

X a well screen or perforated pipe, state the screened interval(s): **See Attached Table**

10) What annular interval surrounding the artesian casing of this well is cement-grouted? N/A

11) Was the well built with surface casing? Yes If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? Yes If yes, please describe: **See Attached Table**

12) Has all pumping equipment and associated piping been removed from the well? Yes If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING:

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal.

1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well: Install tremie pipe, mix and pump cement/bentonite grout from the bottom of well casing to top of casing.

2) Will well head be cut-off below land surface after plugging? Yes

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant

1) For plugging intervals that employ cement grout, complete and attach Table A.

2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.

3) Theoretical volume of grout required to plug the well to land surface: **See Attached Table**

4) Type of Cement proposed: Type I Type II Portland with 3% to 5% bentonite

5) Proposed cement grout mix: ~~7.4~~ 6.0 gallons of water per 94 pound sack of Portland cement.

6) Will the grout be: _____ batch-mixed and delivered to the site

X mixed on site

6.0 gal is excluding the bentonite hydration water; See #7 on C.3. – Bw 4/16/13

7) Grout additives requested, and percent by dry weight relative to cement: 3% to 5% bentonite
Hydrate separately with 0.65 gallons of water per 1% of bentonite powder used. Approximately 1.95 gallons would be needed for a 3% bentonite mix with each 94-lb. sack of cement. A 5% mix would use 3.25 gallons with each 94-lb. sack. -Bw 4/16/13

8) Additional notes and calculations: Work scheduled to begin April 22, 2013

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

Work scheduled to begin April 22, 2013.

VIII. SIGNATURE:

I, Bryan Nydoske (National EWP), say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Signature of Applicant — Date: 04/8/2013

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

✓ Approved subject to the attached conditions.
____ Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this 16th day of April, 2013

Scott A. Verhines, State Engineer

By: Blaine Watson

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2013 APR 10 AM 10: 55

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)			See Attached Table
Bottom of proposed interval of grout placement (ft bgl)			See Attached Table
Theoretical volume of grout required per interval (gallons)			See Attached Table
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			~~7.4~~ 6.0 gallons -excludes separate bentonite hydration water -BW 4/16/13
Mixed on-site or batch-mixed and delivered?			On-Site
Grout additive 1 requested			3% to 5% bentonite Hydrated separately per #7 on p. 3. -BW 4/16/13
Additive 1 percent by dry weight relative to cement			None
Grout additive 2 requested			None
Additive 2 percent by dry weight relative to cement			None

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2013 APR 10 AM 10:55

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)			
Bottom of proposed sealant of grout placement (ft bgl)			
Theoretical volume of sealant required per interval (gallons)			
Proposed abandonment sealant (manufacturer and trade name)			

Well Specifications for Plugging Plan of Operations
ConocoPhillips Company Shepherd and Kelsey Number 1E
San Juan County, New Mexico

Well #	Well Type	Casing Diameter (in)	Total Depth (feet bgs)	Approx. Groundwater level (feet bgs)	Approx. volume (gallons)	Approx. Latitude (N)	Approx. Longitude (W)	Surface Completion Type	Screened Interval feet (bgs)	NMOSE Permit
MW-01	MW	2	10	4.31	1.60	36°42'06.51"	108°01'11.03"	temporary stick-up, no concrete pad	2.5' - 10'	Not Permitted
MW-02	MW	2	18.3	2.01	2.93	36°42'07.56"	108°01'11.35"	stick-up on 2'x2' concrete pad	3' - 18'	Not Permitted
MW-03	MW	2	18.1	4.09	2.90	36°42'06.22"	108°01'10.68"	stick-up on 2'x2' concrete pad	3' - 18'	Not Permitted
MW-04	MW	2	18.7	5.07	2.99	36°42'06.38"	108°01'13.09"	stick-up on 2'x2' concrete pad	3.7' - 18.7'	Not Permitted

All wells are non-artesian and breach only one aquifer

MW = Groundwater Monitoring Well

bgs = below ground surface

TD = Total Depth

Unknown = Well not located during previous field activities, will be searched for during plug and abandonment activities

CONESTOGA-ROVERS
& ASSOCIATES

6121 Indian School Rd., NE Suite 200
Albuquerque, NM, USA 87110
Telephone: (505) 884-0672 Fax: (505) 884-4932
http://www.craworld.com

April 5, 2013

Reference No. 074930

Mr. Glenn von Gonten
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, NM 87505

2013 APR 10 AM 10: 55
STATE ENGINEER OFFICE
AZTEC, NEW MEXICO

Dear Mr. von Gonten:

Re: Work Plan for Plug and Abandonment Activities
ConocoPhillips Shepherd and Kelsey No. 1E
API #30-045-24316
NMOCD #3R-098

Conestoga-Rovers & Associates (CRA), environmental consultant for ConocoPhillips Risk Management and Remediation (ConocoPhillips), herein submits a work plan to conduct monitor well plugging and abandonment activities at the Shepherd and Kelsey No. 1E (Site) located in Section29, Township 29N, Range 11W, of San Juan County, NM.

A formal request for no further action status at the Site was requested of the New Mexico Oil Conservation Division (NMOCD) by ConocoPhillips and CRA in a report submitted in March of 2012. The scope of work presented in this work plan includes activities for plugging and abandonment of Site monitor wells as permitted by the NMOCD *Response to Closure Request* letter dated November 9, 2012 (**Attachment A**).

CRA proposes to plug and abandon all existing Site monitor wells. **Figure 1** shows the general location of the Site and **Figures 2** shows the general Site layout and Site details including monitor well locations.

SCOPE OF WORK FOR PLUGGING AND ABANDONMENT ACTIVITIES/REPORTING

CRA proposes the following scope of work:

- Preparation of this work plan, monitor well plugging, and abandonment procedure to fulfill the expectations of the NMOCD and the New Mexico Office of the State Engineer (NMOSE) in regards to the Site-specific requirements. This task includes review of existing data, preparation of this work plan, Site health and safety plan, and submittal of a Well Plugging and Abandonment Plan of Operations document to the NMOSE for approval prior to the commencement of work.

- Proposed field activities include the abandonment of: Monitor Wells MW-1, MW-2, MW-3, and MW-4. All monitor wells are approximately 20 feet deep, constructed with 2-inch PVC, and 8-inch manhole-cover surface completions. Monitor well plugging and abandonment

CONESTOGA-ROVERS
& ASSOCIATES

April 5, 2013

Reference No. 074930

procedures will be performed in accordance with all federal, state, and local regulations. Monitor well abandonment will be supervised by a qualified scientist or technician and the details recorded in the Site field book. The monitor wells will be plugged and abandoned by National Exploration Wells and Pumps (National EWP) of Peralta, NM. Plugging and abandonment of each monitor well will be completed by backfilling the PVC casing with a cement/bentonite grout from total depth to surface using a tremie pipe. A concrete plug will be placed over top of the PVC casing cut at least six inches below grade. All surface completions will be removed and the surface will be restored to grade with native soil or concrete. Demolition debris will be hauled off site by National EWP and disposed of at a ConocoPhillips-approved landfill.

- A monitor well plugging and abandonment report will be prepared and submitted to the NMOCD detailing the monitor well plugging and abandonment field activities. In addition, an individual Plugging Record will be submitted for each monitor well to the NMOSE upon completion of plugging and abandonment activities.

Monitor well plugging and abandonment activities are estimated at two working days and are tentatively scheduled to commence the week of April 22, 2013. If during the course of this project, CRA determines that additional tasks are advisable or additional data collection will be required beyond this scope of work, approval will be obtained prior to proceeding.

CRA is prepared to implement the above scope of work immediately upon receipt of NMOCD approval. Should you have any questions or comments regarding this submittal, please contact me at 505-884-0672.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Kelly E. Blanchard

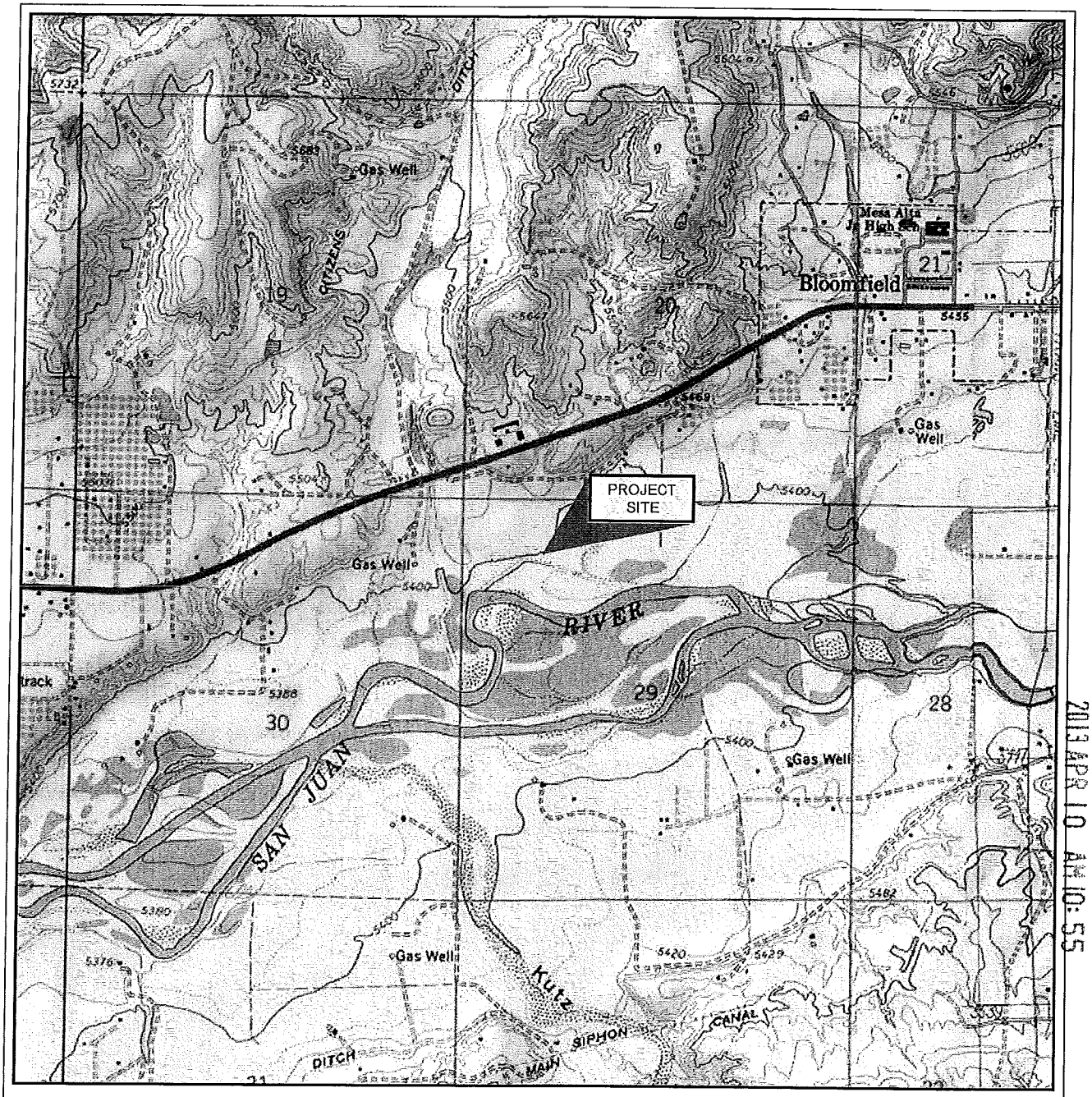
Kelly Blanchard

KB/cd/1
Encl.

c.c.: Terry Lauck, ConocoPhillips

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2013 APR 10 AM 10: 55

FIGURES



SOURCE: USGS 7.5 MINUTE QUAD
"HORN CANYON AND BLOOMFIELD, NEW MEXICO"

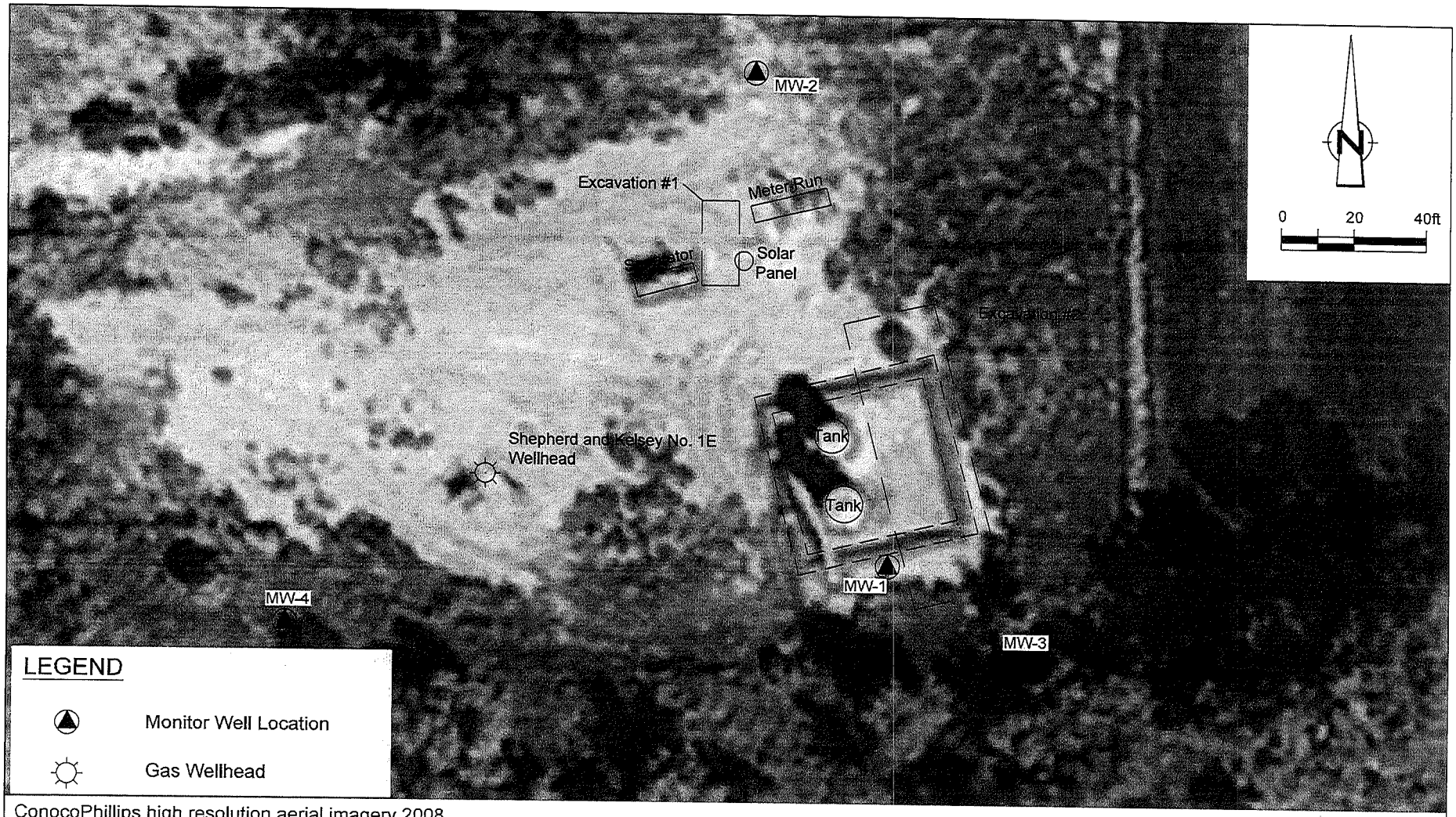
N

0 1000 2000ft

Figure 1

SITE LOCATION MAP
SHEPHERD AND KELSEY No. 1E NATURAL GAS SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

074930-95(003)GN-DL003 DEC 6/2011



ConocoPhillips high resolution aerial imagery 2008.

Figure 2

SITE PLAN
SHEPHERD AND KELSEY NO. 1E NATURAL GAS WELL SITE
SECTION 29, T29N-R11W, BLOOMFIELD, NEW MEXICO
ConocoPhillips Company

ATTACHMENT A

NMOCD RESPONSE TO CLOSURE REQUEST LETTER

APPENDIX C

MONITOR WELL PLUGGING RECORDS

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: Not permitted - site well No. MW-1 Shepherd & Kelly 1E

Well owner: Conoco Phillips Phone No.: 918-661-0935

Mailing address: 3008 G Plaza Office Building, 315 Johnstone Avenue

City: Bartlesville State: Oklahoma Zip code: 74004

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: National Exploration Wells and Pumps

2) New Mexico Well Driller License No.: WD 1210 Expiration Date: 10/31/2013

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Jim Ward

4) Date well plugging began: 4/25/13 Date well plugging concluded: 4/25/13

5) GPS Well Location: Latitude: 36 deg, 42 min, 06.51 sec
Longitude: -108 deg, 01 min, 11.03 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 8.78 ft below ground level (bgl), by the following manner: groundwater level meter

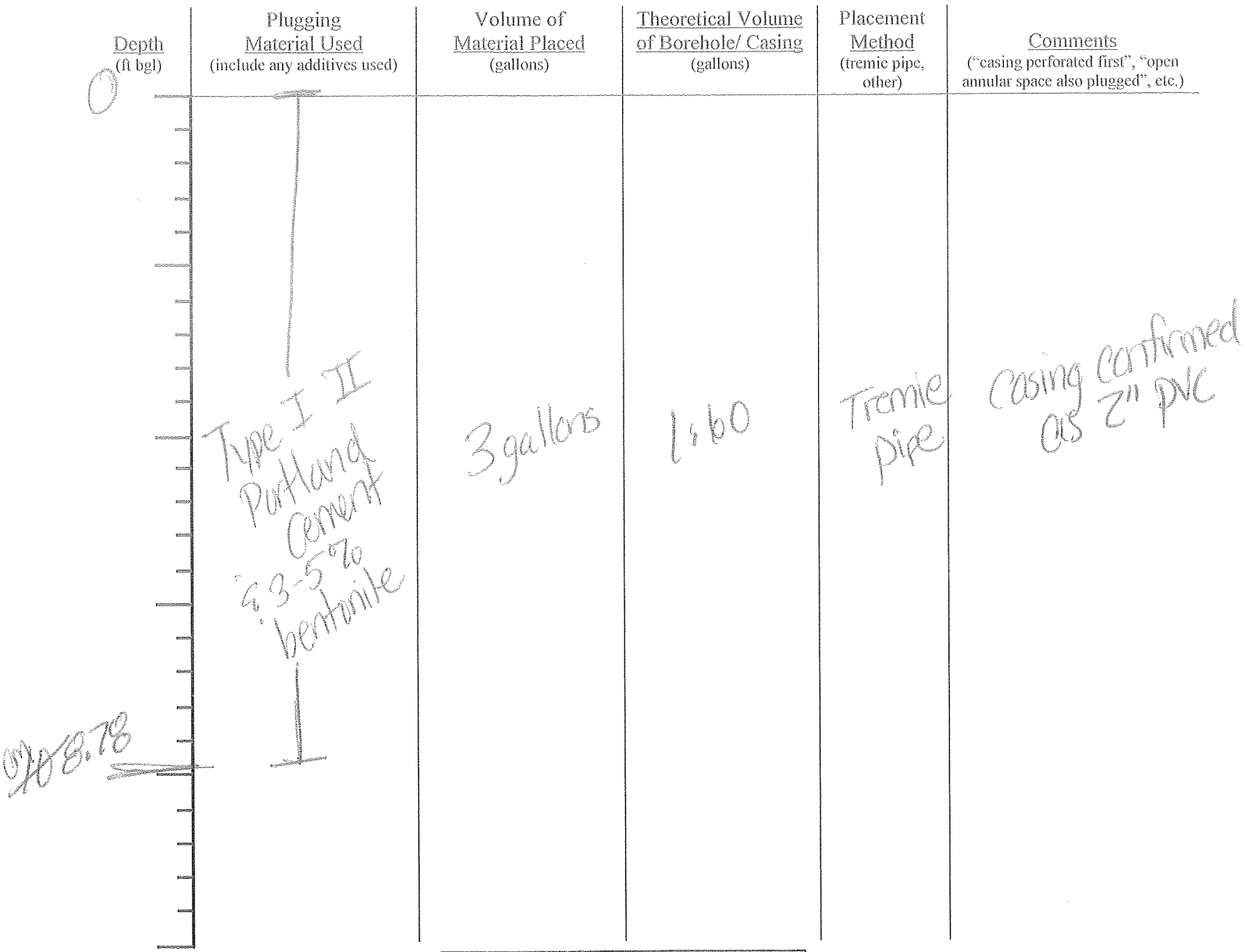
7) Static water level measured at initiation of plugging: 4.82 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 4/16/13

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:



MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, _____ , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jim Ward — Signature of Well Driller

4-30-13 — Date

Office of the State Engineer

PLUGGING RECORD

GREAT SEAL OF THE STATE OF NEW MEXICO 1912

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Shepherd & Kelsey 1E

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: Well not permitted - Site well No. MW-2

Well owner: ConocoPhillips Phone No.: 918-661-0935

Mailing address: 1308G Plaza Office Building, 315 Johnstone Avenue

City: Bartlesville State: Oklahoma Zip code: 74004

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: National Exploration Wells and Pumps

2) New Mexico Well Driller License No.: WD 1210 Expiration Date: 10/31/2013

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): Jim Ward

4) Date well plugging began: 4/25/13 Date well plugging concluded: 4/25/13

5) GPS Well Location: Latitude: 36 deg, 42 min, 07.56 sec
Longitude: -108 deg, 01 min, 11.35 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 19.89 ft below ground level (bgl), by the following manner: groundwater level meter

7) Static water level measured at initiation of plugging: 3.94 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 4/16/13

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:

Depth (ft bgl)	Plugging Material Used (include any additives used)	Volume of Material Placed (gallons)	Theoretical Volume of Borehole/ Casing (gallons)	Placement Method (tremic pipe, other)	Comments ("casing perforated first", "open annular space also plugged", etc.)
0	Type I II Portland Cement 93-5% bentonite	6 gallons	2.93 gallons	Tremie pipe	Well casing confirmed as 2" pvc
19.69					

MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, _____ , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jim Ward — Signature of Well Driller

4-30-13 — Date

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

Stephanie Kaiser

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: Well not permitted - Site Well No. MW-3

Well owner: Conoco Phillips Phone No.: 918-661-0935

Mailing address: 3006 Plaza Office Building, 315 Johnstone Avenue

City: Bartlesville State: Oklahoma Zip code: 74004

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: National Exploration Wells and Pumps

2) New Mexico Well Driller License No.: WD 1210 Expiration Date: 10/31/2013

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): 4 Jim Ward

4) Date well plugging began: 4/25/13 Date well plugging concluded: 4/25/13

5) GPS Well Location: Latitude: 36 deg, 42 min, 06.22 sec
Longitude: -108 deg, 01 min, 10.68 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 20.02 ft below ground level (bgl), by the following manner: groundwater level meter

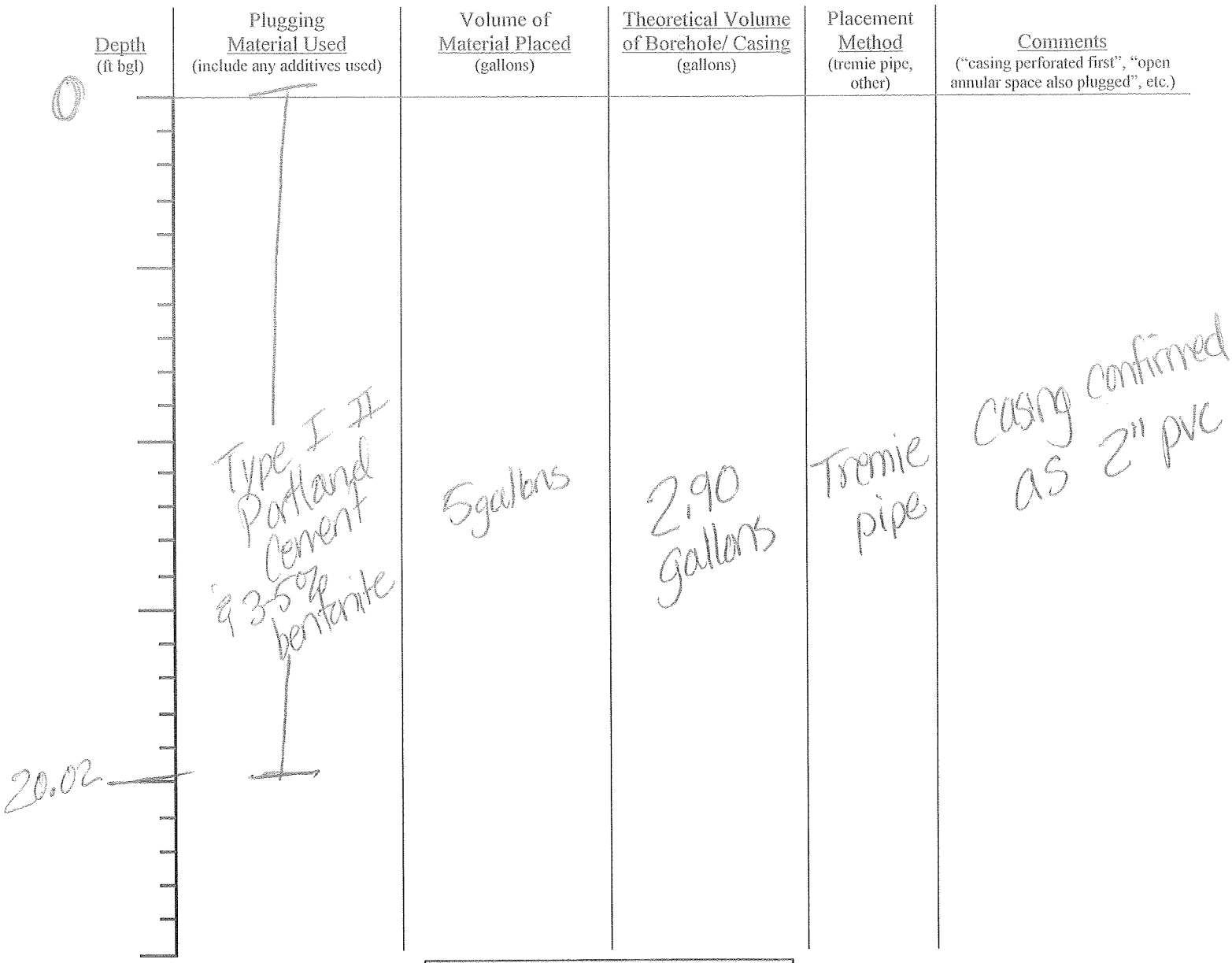
7) Static water level measured at initiation of plugging: 4.43 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 4/16/13

9) Were all plugging activities consistent with an approved plugging plan? Yes If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:



MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, _____ , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jim Ward — Signature of Well Driller

4-30-13 — Date

PLUGGING RECORD

NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

I. GENERAL / WELL OWNERSHIP:

State Engineer Well Number: Well not permitted- Site well no. MW-4 Shepherd's Valley 1

Well owner: Conoco Phillips Phone No.: 918-661-0935

Mailing address: 13086 Plaza Office Building 315 Johnstone Avenue

City: Bartlesville State: Oklahoma Zip code: 74004

II. WELL PLUGGING INFORMATION:

1) Name of well drilling company that plugged well: National Exploration Wells and Pumps

2) New Mexico Well Driller License No.: WD 1210 Expiration Date: 10/31/2013

3) Well plugging activities were supervised by the following well driller(s)/rig supervisor(s): _____

4) Date well plugging began: 4/25/13 Date well plugging concluded: 4/25/13

5) GPS Well Location: Latitude: 36 deg, 42 min, 06.38 sec
Longitude: -108 deg, 01 min, 13.09 sec, WGS 84

6) Depth of well confirmed at initiation of plugging as: 20.38 ft below ground level (bgl), by the following manner: groundwater level meter

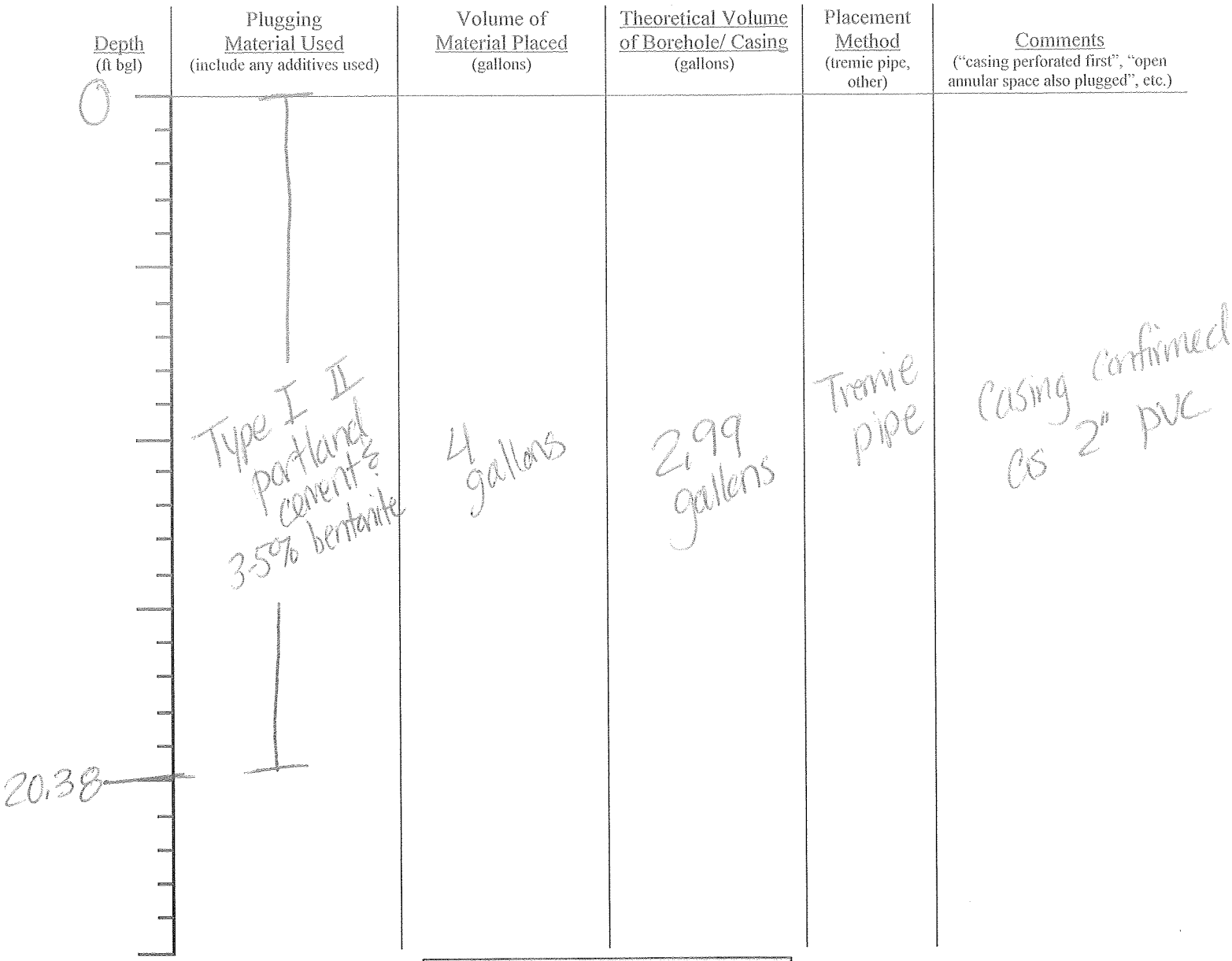
7) Static water level measured at initiation of plugging: 5.54 ft bgl

8) Date well plugging plan of operations was approved by the State Engineer: 4/16/13

9) Were all plugging activities consistent with an approved plugging plan? YES If not, please describe differences between the approved plugging plan and the well as it was plugged (attach additional pages as needed):

10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

For each interval plugged, describe within the following columns:



MULTIPLY		BY		AND OBTAIN
cubic feet	x	7.4805	=	gallons
cubic yards	x	201.97	=	gallons

III. SIGNATURE:

I, _____ , say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

Jim Ward — Signature of Well Driller

4-30-13 — Date