

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Wednesday, April 11, 2007 7:54 PM
To: 'arnor3@bp.com'
Cc: Ezeanyim, Richard, EMNRD; Guye, Gerry, EMNRD
Subject: Washington 33 State Waterflood

Hello Mr. Rusty Arnold:

As we talked about today, the recent Division Order authorizing this waterflood R-12658, required BP to among other things, locate records on 4 wells drilled in the 1920s and if necessary, re-enter and re-plug those wells in order to isolate the intended injection interval of the Waterflood (approx 1250 to 3000 feet).

This email confirms the OCD received data sent by BP on these 4 wells on March 7, 2007.

The four wells in question are:

30-015-01601 located at 990FSL 1570FWL Sec 28 T17S R28E Eddy County, NM

Drilled: 9/5/1926 to at least 2905 feet, Treated with 120 Quarts.

Casing: 10inch at 651 feet and 8-1/4inch at 1135 feet (No Cement Data)

Final: Dry and Abandoned

30-015-01593 located at 250FSL 250FWL Sec 27 T17S R28E Eddy County, NM

Drilled: 10/31/1929 to at least 2512 feet,

Casing: 10inch at 340 feet, 8-1/4inch at 515 feet, 6-5/8inch at 1670 (All Casing "Landed" not "Cemented")

Final: Dry and Abandoned

30-015-02599 located at 1070FNL 250FEL Sec 5 T18S R28E Eddy County, NM

Drilled: 6/14/1925 to at least 2340 feet, Treated with 180 Qts

Casing: 12-1/2inch at 200 feet, 8-1/4inch at 469 feet, (No Cement Data)

Final: Dry and Abandoned ?but a Transporting Permit signed in 1950?

30-015-02558 located at 1070FNL 1570FWL Sec 4 T18S R28E Eddy County, NM

Drilled: 5/1/1925 to at least 2325 feet, Treated with 250 Qts

Casing: 6-5/8inch at 2325 feet, (No Cement Data)

Final: Dry and Abandoned but well was perfered from 2159 to 2311

The Division has determined these 80 year old wells likely do not have casing remaining in the original holes (casing was not cemented) and, even if so, any re-entry attempt would likely result in drilling outside the original holes and would not accomplish the intended purpose of isolating injection in this waterflood. BP has agreed to routinely survey these well sites for evidence of fluid on the surface. If injection fluid or oil is detected on any of these surface sites by BP or by OCD inspectors, then the offending well, will at that time be re-entered to install cement plugs above the injection interval.

Regards,



William V. Jones PE
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, NM 87505
505-476-3448

4/11/2007



Rusty Arnold
Reservoir Engineer
North America Gas SPU

BP America Production Company
501 Westlake Park Boulevard
Houston, Texas 77079

March 14, 2007

281.366.1079 Office
281.366.7067 Fax

RECEIVED

MAR 19 2007

Oil Conservation Division
Attention: Will Jones
1220 South St. Francis Drive
Santa Fe, NM 87505

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Will:

Per our phone conversation, please find attached the information concerning the four wells drilled and abandoned in the late 1920's and early 1930's for the Washington "33" State Lease Waterflood Project, Case No. 13750, Order No. R-12658. A trip was made to the OCD Artesia District Office to obtain information on the four drilled and abandoned wells from scout tickets and whatever else was available. The following information was obtained.

1. No information was obtained on the Kennedy Oil Company Delhi State No. 1. However, information was obtained for the Navajo Oil Company Tigner-State No. 2 well which has the same location and API Number as the Delhi State No. 1.
2. A Full Well Report was found for each well. It is suspected these reports were filled out by Petroleum Information August 1, 1973, when API Numbers were being assigned, which was thirty eight years after they were abandoned. These reports do not contain any specifics as to casing cemented in the hole or how the well was actually plugged.
3. A table with formations and depths was found for each well except the Fry State No. 1.
4. There was a Notice Of Intention To Drill New Well found for the V. P. Welch et al. Well No. 1. The location of the well and drilling date indicate it was the E. P. Welch et al State No. 1. It should be noted that on the form it says the casing was to be landed and not cemented. Landing casing was a common practice then. If the casing was landed, it is doubtful there is any casing left in the ground.
5. There is a well marker at the Delhi State No. 1 location and at the Fry State No. 1 location. There was no information on either well marker.
6. There was no well marker found at the State No. 1 and Thompson No. 1 locations.

Please find attached the information obtained from the OCD Artesia District Office. If you have any questions, please call me at 281-366-1079.

Sincerely,

Rusty Arnold
Reservoir Engineer

Full Well Report

March 07, 2007 8:00 am

Page 1 -

*** Well Header ***
(PERMIAN BASIN - HISTORICAL WELL)API Nbr: 30015016010000 State: NEW MEXICO
Oper: NAVAJO OIL COMPANY
Well: 2 Lease: TIGNER-STATE
AAPG Prov: PERMIAN BASIN
Field: RED LAKE
Prop Source Code: IHS ENERGYCounty: EDDY
Oper Code: 129273
Prov Code: 430
Field Code: 041170Meridian: NEW MEXICO 1855 Meridian Code: 23
Twp: 17.0S Rng: 28.0E SEC: 28.0N Spot:
Footages: 990FSL 1570FWL CONGRESS SECTION
Oper Elev: 3686EG Rig Ht: Rig Release:

Drlr Depth: 2905 FT TVD: Form @ TD: UNKWN

Spud Date: 09/05/1926 Date Well Added: 08/01/1973 Abnd Date:
Comp Date: 12/14/1926 Last Update: 11/30/2006 TD Date:
Final Status: D&A Publication Code: C Pool:
Initial Well Class: NEW FIELD WILDCAT
Final Well Class: NEW FIELD WILDCAT-DRY (INCLUDING TEMPORARILY ABANDONED WELL)
Hole Direction: VERTICAL Tax Credit Type:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Casing/Liner/Tubing ***

Size	Depth	(Casing) Cement
10 IN	651 FT	
8 1/4 IN	1135 FT	

*** Production Test ***

PTU

--- Treatment ---

Type of Trtmt: FRACTURING Interval: 2040FT - 2525FT
Vol or Weight: 120.0 QT Trtmt Fluid:

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zone ***

NEW MEXICO SCHOOL OF MINES
STATE BUREAU OF MINES AND MINERAL RESOURCES
SOCORRO, NEW MEXICO

NEW MEXICO WELL LOG DIVISION

Casing Record:

✓
Adair County
Navajo Oil Company
Higuer No. 2 Well
Sec. 28-4-178-R. 23.1.
Elevation: 5703'
Commenced:
Completed:

Formation	Bottom	Formation	Bottom
Red rock	235	Red rock	1400
Gypsum	255	Limestone - GAS 1460'	1420
Red rock	325	Gypsum	1500
Limestone	350	Limestone	1515
Sandstone and gravel - 11111	365	Gypsum	1530
Limestone	385	Limestone	1540
Red rock	390	Gypsum	1560
Limestone	420	Limestone	1585
Red rock	440	Gypsum	1615
Red rock	455	Limestone	1960
Red sandstone 11111 HOLE	470		
Gypsum	475		
Red rock	480		
Limestone	525		
Red rock	565		
Limestone	570		
Red rock	580		
Limestone	625		
Red rock	650		
Limestone	690		
Gypsum	705		
Limestone - Show Oil 715-20	715		
Sandstone	720		
Limestone	740		
Brown sandstone GAS and WATER	755		
Gypsum	775		
Limestone	840		
Red rock	852		
Limestone	930		
Gypsum	975		
Limestone	1000		
Red sandstone	1015		
Gypsum	1030		
Red rock	1040		
Gypsum	1080		
Limestone	1095		
Gypsum	1150		
Gypsum	1165		
Limestone	1215		
Red sandstone	1240		
Limestone	1260		
Gypsum	1290		
Limestone	1380		

NEW MEXICO SCHOOL OF MINES
STATE BUREAU OF MINES AND MINERAL RESOURCES
SOCORRO, NEW MEXICO

NEW MEXICO WELL LOG DIVISION

COUNTY Eddy
FIELD Artesia
COMPANY Navajo Oil Co.
LEASE Tigner-State
LOCATION (1/4)

No. 2 Well

CASING RECORD		ELEVATION	FEET	SEC.	. T.	. R.
Diam., in.	Bottom					
		INITIAL DAILY PRODUCTION:			feet from	line and
		Open	bbls. Oil	COMMENCED	feet from	line of Section
		Open	cu. ft. Gas	COMPLETED		
		Tbg.	bbls. Oil	ABANDONED		
		Tbg.	cu. ft. Gas	REMARKS:		

Page 2 continued

FORMATION	BOTTOM, FEET	FORMATION	BOTTOM, FEET
Sandy lime	2732		
Sand	2742		
Sandy lime	2765		
Dark sandy lime	2782		
Light, coarse, sandy lime	2830		
Lime hard	2875		
Lime and anhydrite	2870		
Anhydrite	2885		
T. D.	2905		

Cil sands

No. 1 from 2017' to 2034'
No. 2 from 2110' to 2120'
No. 3 from 2395' to 2425'
No. 4 from 2380' to 2360'

Water sands

No. 1 from 350' to 365'
No. 2 from 455' to 470'
No. 3 from 740' to 755'
No. 4 from 2590' to 2605' (salt water)

Full Well Report

March 07, 2007 8:01 am

Page 1

*** Well Header ***
(PERMIAN BASIN - HISTORICAL WELL)

API Nbr: 30015015930000 State: NEW MEXICO

County: EDDY

Oper: WELCH E P

Oper Code: 421052

Well: 1

Lease: STATE

AAPG Prov: PERMIAN BASIN

Prov Code: 430

Prop Source Code: IHS ENERGY

Meridian: NEW MEXICO 1855

Meridian Code: 23

Twp: 17.0S Rng: 28.0E

SEC: 27.0M

Spot:

Footages: 250FSL 250FWL CONGRESS SECTION

Oper Elev: 3691ES

Rig Ht:

Rig Release:

Drlr Depth: 2512 FT

TVD:

Form @ TD: UNKN

Spud Date: 10/31/1929

Date Well Added: 08/01/1973 Abnd Date:

Comp Date: 02/06/1930

Last Update: 08/20/2005

TD Date:

Final Status: D&A

Publication Code: C

Pool:

Initial Well Class: NEW FIELD WILDCAT

Final Well Class: NEW FIELD WILDCAT-DRY (INCLUDING TEMPORARILY ABANDONED WELL)

Hole Direction: VERTICAL Tax Credit Type:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Casing/Liner/Tubing ***

Size	Depth	(Casing) Cement
10 3/4 IN	240 FT	
8 5/8 IN	515 FT	
6 5/8 IN	1870 FT	

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zone ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Deviation Data ***

*** Directional Survey ***

*** Horizontal Drilling Data ***

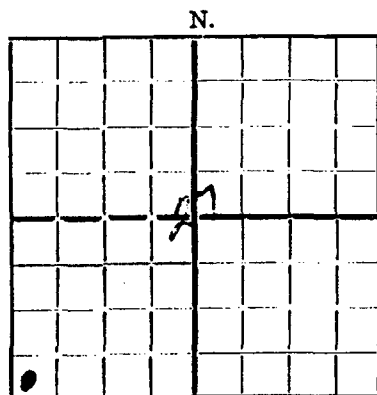
**NEW MEXICO STATE LAND OFFICE
SANTA FE, NEW MEXICO**

**DEPARTMENT OF THE STATE GEOLOGIST
NEW MEXICO SCHOOL OF MINES
SOCORRO, NEW MEXICO**

NOTICE OF INTENTION TO DRILL NEW WELL

Notice must be given to the State Geologist or to the proper Oil and Gas Inspector and approval obtained before drilling begins. If changes in the proposed plan are considered advisable a copy of this notice showing such changes will be returned to the sender. Submit this notice in triplicate. One copy will be returned following approval.

Mr. **C.G. Staley**, State Geologist, **Artesia** N. Mex., **Oct. 21st. 1929**
Socorro, N. Mex.
Dear Sir: you are hereby notified that it is our intention to commence the drilling of a well to be known as **V.P. Welch et al** Well No. **1** in **SW** of Sec. **27**
T. **17**, R. **28**, N. M. P. M., **Artesia** Oil Field
County.



AREA 640 ACRES
LOCATE WELL CORRECTLY

The well is **250** feet **(N)** of **S** line and **250** feet **(S)**
(E.)
(W.) **W** line of **SW 1/4 of Sec. 27**

(Give location from section or other legal subdivision lines. Cross out wrong directions.)

If state land the oil and gas lease is No. **647**

Assignment No. _____

If patented land the owner is _____

Address _____

The lessee is **V.P. Welch** Address _____

The elevation of the derrick floor above sea level is _____ feet. We propose to drill well with No. **No 2 National Machine**

Make of Drill

We propose to use the following strings of casing and to land or cement them as indicated.

Size of Casing	Weight Per Foot	New or Second Hand	Depth	Landed or Cemented
10"		S.H.	250 ft.	Landed
8"		S.H.	400 ft.	"

If changes in the above plan become advisable we will notify you before cementing or landing casing. We estimate that the first productive oil or gas sand should occur at a depth of about _____ feet.
Additional information:

Sincerely yours,

V.P. Welch et al

Approved **Oct 22, 1929**

Company or Operator.

Except as follows:

By _____

Position **Operator**

Send communication regarding well to **V.P. Welch**

Name _____

Address **Artesia, New Mexico**

A.L. Staley
State Geologist or Oil and Gas Inspector.

STATE BUREAU OF MINES AND MINERAL RESOURCES
SOCORRO, NEW MEXICO

NEW MEXICO WELL LOG DIVISION

Casing Record:
10" - 340'
8 1/2" - 515'
6-5/8" - 1670'

Eddy County
Welch et al
No. 1 State
SW cor. Sec. 27-T. 17S-R. 26E.
Elevation: 3691'
Commenced: 10-31-29
Completed: 2-13-30

Formation	Bottom	Formation	Bottom
Gypsum	25	Shale	1212
Red sand	225	Lime	1300
Red gumbo	360	Shale	1305
Salt	395	Lime	1930
Gypsum	400	Sandy lime	2005
Red sand - water	405	Gray lime	2045
Red beds	480	Brown lime	2052
Gypsum	490	Gray lime	2072
Shale	505	Gray lime	2180
Red beds	540	Gray and white lime	2235
Gypsum	555	Brown lime	2245
Red sandy shale	595	Dark gray lime	2250
Gypsum and shale	600	Gray lime	2305
Red beds	605	Black lime	2503
Gypsum	620	Sand	T. L. 2512
Red shale	645		
Gypsum	680		
Red shale	690		
Gypsum and red beds	740		
Red rock and gypsum	800		
Brown sand and anhydrite	820		
Brown sandy lime	840		
Anhydrite and red shale	1060		
Red beds	1090		
Anhydrite and red beds	1225		
Anhydrite and brown shale	1235		
Broken lime	1300		
Red sand	1340		
Anhydrite	1360		
Red beds	1395		
Anhydrite	1460		
Gray sandy lime	1470		
Red rock	1485		
Anhydrite	1545		
Broken lime	1555		
Anhydrite	1585		
Sand - oil show 1590-1610'	1610		
Anhydrite and red sand	1675		
Anhydrite	1695		
Lime	1710		
Anhydrite	1725		
Lime	1795		

Full Well Report

March 07, 2007 8:01 am

Page 1

*** Well Header ***
(PERMIAN BASIN - HISTORICAL WELL)

API Nbr: 30015025990000 State: NEW MEXICO

County: EDDY
Oper Code: 423581

Oper: WORKMAN ETAL

Well: 1

Lease: THOMPSON

AAPG Prov: PERMIAN BASIN

Prov Code: 430

Prop Source Code: IHS ENERGY

Meridian: NEW MEXICO 1855

Meridian Code: 23

Twp: 18.0S Rng: 28.0E

SEC: 5.0A

Spot:

Footages: 1070FNL 250FEL

CONGRESS SECTION

Oper Elev: 3654ES

Rig Ht:

Rig Release:

Drilr Depth: 2340 FT

TVD:

Form @ TD: UNKWN

Spud Date: 06/14/1925

Date Well Added: 08/01/1973 Abnd Date:

Comp Date: 09/12/1925

Last Update: 08/20/2005

TD Date:

Final Status: D&A

Publication Code: C

Pool:

Initial Well Class: DEVELOPMENT WELL

Final Well Class: DEVELOPMENT WELL-OIL

Hole Direction: VERTICAL Tax Credit Type:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Casing/Liner/Tubing ***

Size	Depth	(Casing) Cement
12 1/2 IN	200 FT	
8 1/4 IN	469 FT	

*** Production Test ***

PTU

--- Treatment ---

Type of Trtmnt: FRACTURING
Vol or Weight: 180.0 QTInterval: 2035FT - 2218FT
Trtmnt Fluid:

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zone ***

*** Drilling Data ***

**OIL CONSERVATION COMMISSION
STATE OF NEW MEXICO**

CERTIFICATE of COMPLIANCE and AUTHORIZATION to TRANSPORT OIL

Company or Operator Waterbury Lease Artesia
 Address Artesia, New Mexico (Local or Field Office) Artesia, New Mexico (Principal Place of Business)
 Unit A Wells No. 1 Sec. 4 T. 13 R. 23 Field Artesia County Sandoz
 Kind of Lease Artesia 3-2-23 Location of Tanks Artesia
 Transporter Artesia Pipeline Co Address of Transporter Artesia, New Mexico (Local or Field Office)
Artesia, New Mexico (Principal Place of Business) Percent of oil to be transported 100. Other transporters authorized to transport oil from this unit are None %
 REMARKS:

10701N 2501E

The undersigned certifies that the rules and regulations of the Oil Conservation Commission have been complied with except as noted above and that gathering agent is authorized to transport the percentages of oil produced from the above described property and that this authorization will be valid until further notice to the transporter named herein or until cancelled by the Oil Conservation Commission of New Mexico.

Executed this the 17th day of August, 1950

Waterbury
 By W. Martin H. Sanders (Company or Operator)
 Title Agent

State of New Mexico } ss.
 County of Sandoz

Before me, the undersigned authority, on this day personally appeared W. Martin H. Sanders known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is authorized to make this report and has knowledge of the facts stated herein and that said report is true and correct.

Subscribed and sworn to before me, this the 17th day of August, 1950

Notary Public in and for Sandoz County, New Mexico
 Approved: AUG 28 1950 1950 My Commission expires 3, 28, 53

OIL CONSERVATION COMMISSION

By Just Herman

(See Instructions on Reverse Side)

INSTRUCTIONS

This form shall be executed and filed in quadruplicate with the Oil Conservation Commission at Santa Fe, New Mexico, covering each unit from which oil is produced. A separate certificate shall be filed for each transporter authorized to transport oil from a unit. After said certificate has been approved by the Oil Conservation Commission, one copy shall be forwarded to the transporter, one copy returned to the producer, and two copies retained by the Oil Conservation Commission.

A new certificate shall be filed to cover each change in operating ownership and each change in the transporter, except that in the case of a temporary change in the transporter involving less than the allowable production for one month the operator shall in lieu of filing a new certificate, notify the Oil Conservation Commission at Santa Fe, New Mexico, and the transporter authorized by certificate on file with the Commission, by letter of the estimated amount of oil to be moved by the transporter temporarily moving oil from the unit and the name of such temporary transporter and a copy of such notice shall also be furnished such temporary transporter. Such temporary transporter shall not move any more oil than the estimated amount shown in said notice.

This certificate when properly executed and approved by the Oil Conservation Commission shall constitute a permit for pipe line connection and authorization to transport oil from the property named therein and shall remain in full force and effect until

- (a) Operating ownership changes
- (b) The transporter is changed or
- (c) The permit is cancelled by the Commission.

If any of the rules and regulations of the Oil Conservation Commission have not been complied with at the same time this report is filed, explain fully under the heading "REMARKS."

In all cases where this certificate is filed to cover a change in operating ownership or a change in the transporter designated to move oil, show under "REMARKS" the previous owner or operator and the transporter previously authorized to transport oil.

A separate report shall be filed to cover each producing unit as designated by the Oil Conservation Commission.

NEW MEXICO SCHOOL OF MINES
STATE BUREAU OF MINES AND MINERAL RESOURCES
SOCORRO, NEW MEXICO

NEW MEXICO WELL LOG DIVISION

Drilling Record:

Eddy County
Horsman and Thompson
Well No. 1
Sec. 5-T. 18S-R. 28E. (SW 1/4 NW 1/4)
Elevation: 3665'
Commenced: 6-14-25 (location)
Completed: 9-12-25

Formation	Bottom	Formation	Bottom
Gypsum	20	Gray lime	1805
Red sand	215	Gypsum	1815
Red sand	245	Lime	1916
Red rock	300	Brown sand	1925
Hard	325	Hard lime	1975
White shale	330	Sandy lime	1983
Lime	380	Hard lime	2010
Red rock	385	Pink shale	2030
Lime	400	Sandy lime	2035
Sandy lime	445	White Gas SAND	2048
Red sand	450	Hard lime	2084
Water sand	460	Blue shale	2094
Red rock	515	Gas sand	2100
Gypsum	545	Light sand	2105
Red rock	570	Sand	2116
Red gypsum	625		
Red rock and gypsum	635		
Red	675		
Red rock	680		
Hard lime	770		
Red sand	790		
Lime	798		
Lime	1090		
Brown sand	1100		
Lime	1337		
Red sand	1355		
Br. sand	1360		
Lime	1415		
Red rock	1420		
	1425		
Red sand	1435		
Lime	1440		
Gypsum	1450		
Red sandy lime	1515		
Red sand	1520		
Red rock	1535		
Lime	1550		
Lime	1565		
Lime	1635		
Lime	1690		
	1725		
	1730		
	1750		

Full Well Report

March 07, 2007 8:01 am

Page 1 of 2

*** Well Header ***
 (PERMIAN BASIN - HISTORICAL WELL)

API Nbr: 30015025580000 State: NEW MEXICO
 Oper: BIXBY ETAL
 Well: 1 Lease: FRY-STATE
 AAPG Prov: PERMIAN BASIN
 Field: ARTESIA
 Prop Source Code: IHS ENERGY

County: EDDY
 Oper Code: 436335
 Prov Code: 430
 Field Code: 001696

Meridian: NEW MEXICO 1855
 Twp: 18.0S Rng: 28.0E SEC: 4.0C
 Footages: 1070FWL 1570FWL CONGRESS SECTION

Meridian Code: 23
 Spot:

Contr:
 Oper Elev: 3660EG

Tools: CABLE
 Rig Ht:

Rig Nbr:
 Rig Release:

Drlr Depth: 2325 FT TVD: Form @ TD: UNKWN
 Old TD: Proj Depth: Proj Form: UNKWN

Spud Date: 05/01/1925 Date Well Added: 08/01/1973 Abnd Date:
 Comp Date: 07/31/1925 Last Update: 08/20/2005 TD Date:
 Final Status: D&A Publication Code: C Pool:
 Initial Well Class: DEVELOPMENT WELL
 Final Well Class: DEVELOPMENT WELL-DRY (INCLUDING TEMPORARILY ABANDONED WELL)
 Hole Direction: VERTICAL Tax Credit Type:

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Casing/Liner/Tubing ***

Size	Depth	(Casing) Cement
6 5/8 IN	2325 FT	

*** Production Test ***

PTU

Producing Formation:	Producing Thru:	Type of Perfs	Perf Shots:	Interval Tested
	PERF			2159 FT- 2311FT

--- Detail Perforations ---

----- Depth -----			----- Depth -----		
Top	Base	Status	Top	Base	Status
P	2159FT - 2311FT				

Full Well Report

March 07, 2007 8:01 am

Page 2 of 2

--- Treatment ---

Type of Trtmnt: FRACTURING
Vol or Weight: 250.0 QT

Interval: 2159FT - 2311FT
Trtmnt Fluid:

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zone ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Deviation Data ***

*** Directional Survey ***

*** Horizontal Drilling Data ***

*** Drilling Progress Narrative ***