GW - 28

Monitor Well Abandonment

HOLLYFRONTIER.

September 28, 2018

Ms. Catherine Goetz
New Mexico Office of the State Engineer
Water Rights District II
1900 West Second Street
Roswell, New Mexico 88201

RE: Work Plan for Abandonment of Former "Test" Wells:
HollyFrontier Navajo Refining LLC – Artesia Refinery

Dear Ms. Goetz:

HollyFrontier Navajo Refining LLC (Navajo) is submitting this *Work Plan for Abandonment of Former "Test" Wells* (work plan) for the Artesia Refinery located in Artesia, New Mexico (**Figure 1**). This work plan has been prepared to propose the abandonment of sixteen (16) "test" wells located around the former evaporation ponds (EPs) approximately three miles east of the active refinery. These wells were installed between 1977 and 1982, but are not part of the current groundwater monitoring well network. The proposed scope of work for the abandonment of these wells is provided below.

Background

Soil and groundwater investigations have been conducted in and around the EPs since the late 1970's. Shallow groundwater "test" wells were installed surrounding the EPs between 1977 and 1982. Subsequent investigations were performed from the mid-1980's through 2013, which included installation of numerous additional monitoring wells within and surrounding the EPs. Semiannual groundwater monitoring of the EPs is conducted according to a *Facility-Wide Groundwater Monitoring Work Plan*, which is updated annually and submitted to the New Mexico Environment Department (NMED) Hazardous Waste Bureau and to the New Mexico Energy, Minerals Natural Resources Department Oil Conservation Division (OCD) for review and approval. As mentioned above, the "test" wells are not included in the current semiannual monitoring program.

During a routine site inspection, Navajo personnel observed the presence of metal and fiberglass vertical pipes at various locations surrounding the EPs (**Figure 2**). Further investigation confirmed that the locations of these pipes correspond to the locations of the "test" wells, which were previously believed to have been plugged and abandoned. Navajo personnel attempted to locate all of the "test" wells and gauged those that they were located. Several of the wells were dry and at least one had roots blocking the casing. Navajo plans to properly plug and abandon these wells because the wells are not suitable for groundwater monitoring as the condition of the wells screens is unknown and there is adequate monitoring coverage in the EP area.

Proposed Well Abandonment Activities

Table 1 provides a listing of the point of diversion (POD) number assigned to the test wells, the well numbers, well construction information (where available from well logs or POD reports), and information obtained by Navajo personnel. As seen in **Figure 2** and **Table 1**, 10 of the 16 test wells were located in the field. Subsurface location methods, such as the use of a metal detector, magnetometer, or similar device, will be used to attempt to locate the other 6 wells.

"Test" well #16 is located in close proximity to existing pipelines. A historical figure of the "test" well locations shows well #13 to be near well #16; thus, well #13 is also within the area of existing pipelines. The reported location of well #11 on the New Mexico Office of the State Engineer (OSE) record was stated as "1600 feet from the east boundary of Section 12" while the reported location on the OSE record for well #12 is "1500 feet from the east boundary of Section 12". Downhole cameras will be deployed in well #16, and wells #11 and #13 if they can be located, to verify the presence of screened pipe and confirm that these are correctly identified as "test" wells rather than features associated with the pipelines. Because well #16, and potentially wells #11 and #13, are located within fifteen feet of existing pipelines, Navajo proposes to abandon each well (if located) by grouting in place without attempting to remove the casing.

Attachment A contains a copy of form WD-08 "Well Plugging Plan of Operations" required by the OSE for each of the 16 test wells proposed to be abandoned. These forms are being submitted to OSE prior to initiation of field activities and this work plan will be modified, if necessary, based on OSE comments. **Attachment B** contains a copy of the OSE well records that were located for the test wells.

The well casing (with the exception of "test" wells #11, #13, and #16) will be pulled from the ground at each location, if possible. If it is not possible to pull the well casing, the casing will be cut approximately 1-3 feet below the ground surface. New Mexico Administrative Code (NMAC) Section 19.27.4.30.C specifies that well plugging should be conducted by filling the constructed well from the bottom upwards using a neat cement slurry, bentonite based plugging material, or other sealing material approved by the state engineer. A tremie pipe will be inserted into the open boring immediately following removal of each casing, or into the casing if it will be left in place, to pump slurry into the well from the bottom up to the surface. The proposed slurry material for filling these wells will consist of approximately 5.2 gallons of water per 94-pound bag of Portland cement. Due to the remote locations of these wells, the cement slurry will be mixed on site, then pumped into the borehole (or remaining casing) using a tremie pipe to fill the well from the bottom upwards.

Following approval of the plugging plans, Navajo will schedule the field activities to occur so as to complete the work in a timely manner. The actual volume of material placed in each well will be documented and the abandonment procedures will be photographically documented. Following completion of the well abandonment activities, a summary letter will be prepared and submitted to OSE, along with the driller's completed plugging report for each well. A copy of the summary letter and documentation of the field activities completed within the scope of this work plan will be included in the subsequent *Annual Groundwater Monitoring Report*, which will be submitted to both the NMED and the OCD.

If you have any questions or comments regarding this request, please feel free to contact me at 575-746-5487 or Robert Combs at 575-746-5382.

Sincerely,

Scott M. Denton
Environmental Manager
HollyFrontier Navajo Refining LLC

Enclosures

c: Ms. Leona Tsinnajinnie, NMED HWB
Mr. Carl Chavez, OCD

TABLE

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • http://www.hollyfrontier.com

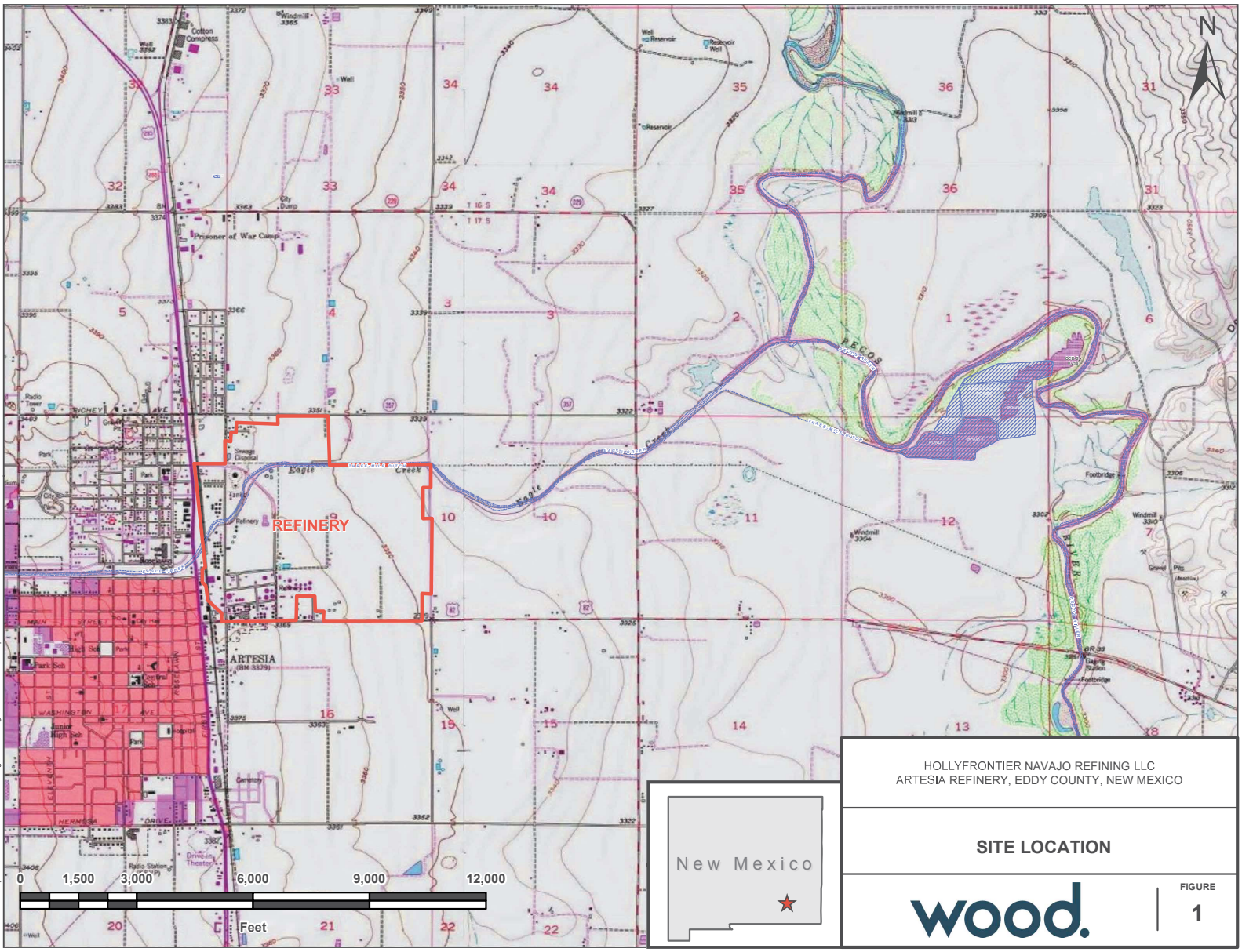
Table 1 - Former "Test Wells" Information
HollyFrontier Navajo Refining LLC - Artesia, New Mexico

POD Number	Test Well	Diameter (in)	Screen Interval (ft)	TD from log	Installation Date	Lat Deg	Lat Min	Lat Sec	Long Deg	Long Min	Long Sec	Field verification comments
RA 06143 X2	#1	8	3 to 19	20	6/16/1977	32	51	23.5	-104	20	35.6	Broken at ground level, dry
RA 06143 X3	#2	-	-	-	-	32	51	22.3	-104	20	35.6	Found, DTW 9.05 ft
RA 06143	#3	8	3 to 19	23	6/17/1977	32	51	18.9	-104	20	16.2	Not found in field
RA 06143 X4	#4	-	-	-	-	32	51	19.9	-104	20	15.1	Not found in field
RA 06143 X5	#5	8	3 to 20	21	6/18/1977	32	51	33.8	-104	20	3.9	Found, DTW 11.3 ft, TD 11.6 ft
RA 06143 X6	#6	-	-	-	-	32	51	36.2	-104	20	0.8	Found, dry with weeds
RA 06143 X7	#7	8	3 to 21	22	6/20/1977	32	51	32.2	-104	19	39.8	Not found in field
RA 06143 X83	#8	-	-	-	-	32	51	30.5	-104	19	39.6	Not found in field, should be south of #7
RA 06143 X9	#9	8	3 to 20	21	6/21/1977	32	51	14.0	-104	19	54.8	Found, dry, 4.2 ft TD, 6 in instead of 8 in
RA 06143 X10	#10	-	-	-	-	32	51	22.9	-104	19	38.1	Found, dry
RA 06143 X11	#11	-	-	-	-	32	51	4.1	-104	22	32.8	Not found in field, reported 100 ft west of well #12
RA 06143 X12	#12	8	3 to 18	19	6/22/1977	32	51	13.9	-104	19	52.1	Found, 3 ft stickup, DTW 8.15 ft, TD 14.8 ft
RA 06143 X13	#13	8	3 to 20	21	6/23/1977	32	51	13.4	-104	20	5.4	Not found in field
RA 06143 X14	#14	-	-	-	-	32	51	23.2	-104	19	36.1	Found near #10 & #17, wasps; another #14 shown on Plate 2 near #13 & #16
RA 06775 E	#16	8.625	-	60	3/29/1981	32	51	13.7	-104	20	8.1	Found, 2 ft stickup, DTW 9.66 ft, TD 37.7 ft
RA 06776 E	#17	8.625	-	30	3/29/1981	32	51	21.6	-104	19	36.8	Found, threaded steel cap could not be opened

Definitions:

- = no historical information is available
Deg = degrees
DTW = depth to water
ft = feet
in = inches
Lat = Latitude
Long = Longitude
Min = Minutes
OSE = Office of the State Engineer
POD = point of diversion
Sec = Seconds
TD = total depth ("from log" means from OSE records, TD in comments column was measured)

FIGURES

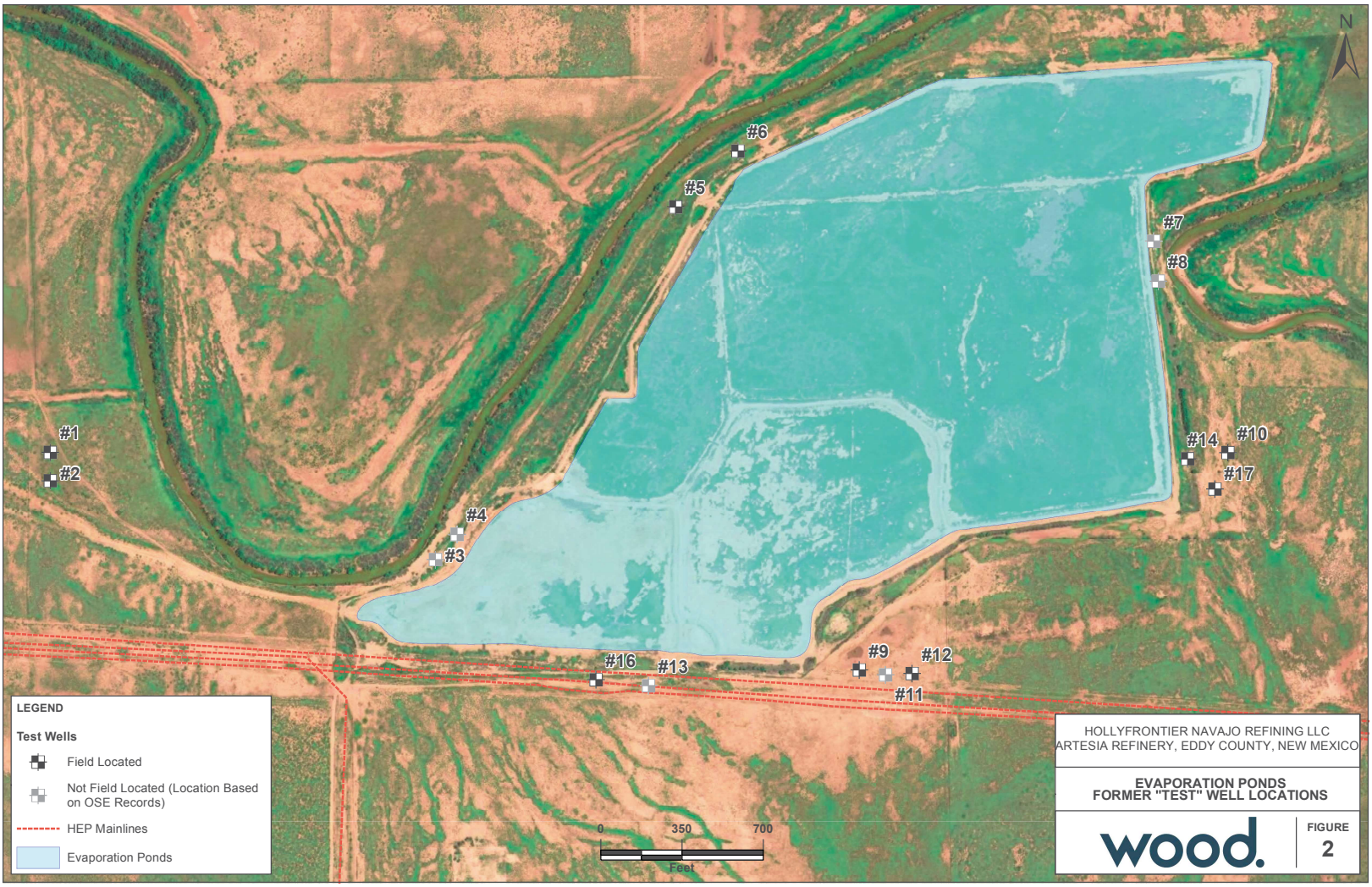


HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO

SITE LOCATION

wood.

FIGURE
1


N
#1
#2
#3
#4
#5
#6
#7
#8
#9
#10
#11
#12
#13
#14
#16
#17
LEGEND
Test Wells
Field Located
Not Field Located (Location Based on OSE Records)
HEP Mainlines
Evaporation Ponds
0
350
700
Feet
HOLLYFRONTIER NAVAJO REFINING LLC
ARTESIA REFINERY, EDDY COUNTY, NEW MEXICO
EVAPORATION PONDS
FORMER "TEST" WELL LOCATIONS
wood.
FIGURE
2

ATTACHMENT A
WELL PLUGGING PLAN FORMS

HollyFrontier Navajo Refining LLC
501 East Main • Artesia, NM 88210
(575) 748-3311 • http://www.hollyfrontier.com

WELL PLUGGING PLAN OF OPERATIONS

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: RA 06143 X2

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 23.5 sec
Longitude: -104 deg, 20 min, 35.6 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #1", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: 20 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): 3 to 19 (according to OSE records)

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 09/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~20 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X3

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 22.3 sec
Longitude: -104 deg, 20 min, 35.6 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #2", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 9 feet (below land surface / feet above land surface) (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

■ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 9/20/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 18.9 sec
Longitude: -104 deg, 20 min, 16.2 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #3", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The location provided is from the POD form for RA 06143; however, the well has not recently been physically located. Additional attempts will be made to locate the well for plugging.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface / feet above land surface (circle one)

6) Depth of the well: 23 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): 3 to 19 (according to OSE records)

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

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Signature of Applicant — Date: 09/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X4

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 19.9 sec
Longitude: -104 deg, 20 min, 15.1 sec, WGS84
☒ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #4", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The location provided is from the POD form for RA 06143 X4; however, the well has not recently been physically located. Additional attempts will be made to locate the well for plugging.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface / feet above land surface) (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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

09/28/18
Date

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 _____day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X5

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 33.8 sec
Longitude: -104 deg, 20 min, 3.9 sec, WGS84
☑ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #5", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 8 to 12 feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: 21 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): 3 to 20 (according to OSE records)

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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

09/28/18
Date

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 _____day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~21 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X6

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 36.2 sec
Longitude: -104 deg, 20 min, 0.8 sec, WGS84
☐ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #6", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 8 to 12 feet (below land surface / feet above land surface) (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 9/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X7

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 32.2 sec
Longitude: -104 deg, 19 min, 39.8 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #7", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The location provided is from the POD form for RA 06143 X7; however, the well has not recently been physically located. Additional attempts will be made to locate the well for plugging.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: Unknown feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: 22 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): 3 to 21 (according to OSE records)

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 9/28/15

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~22 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X83

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 30.5 sec
Longitude: -104 deg, 19 min, 39.6 sec, WGS84
☒ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #8", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The location provided is from the POD form for RA 06143 X83; however, the well has not recently been physically located. Additional attempts will be made to locate the well for plugging.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: Unknown feet (below land surface / feet above land surface) (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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

9/20/18
Date

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 _____day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X9

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 14.0 sec
Longitude: -104 deg, 20 min, 54.8 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #9", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The well appears to be silted in at about 4.2 ft below ground.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: >4.2 ft feet (below land surface / feet above land surface) (circle one)

6) Depth of the well: 21 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): 3 to 20 (according to OSE records)

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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

9/28/18
Date

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~21 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X10

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 22.9 sec
Longitude: -104 deg, 19 min, 38.1 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #10", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 12 feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

■ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 09/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X11

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/18

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: 32 deg, 51 min, 4.1 sec
Longitude: -104 deg, 22 min, 32.8 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #11", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The location provided is from the POD form for RA 06143 X11; however, the well has not recently been physically located. Additional attempts will be made to locate the well for plugging.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface / feet above land surface (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 09/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X12

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/18

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: 32 deg, 51 min, 13.9 sec
Longitude: -104 deg, 19 min, 52.1 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #12", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: 19 (log)/14.8 TD feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

■ a well screen or perforated pipe, state the screened interval(s): 3 to 18 ft bgs

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~19 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X13

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 13.4 sec
Longitude: -104 deg, 20 min, 5.4 sec, WGS84
☐ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #13", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use. The location provided is from the POD form for RA 06143 X13; however, the well has not recently been physically located. Additional attempts will be made to locate the well for plugging.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface / feet above land surface (circle one)

6) Depth of the well: 21 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): 3 to 20 ft bgs

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 09/28/18

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 _____day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~21 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06143 X14

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 23.2 sec
Longitude: -104 deg, 19 min, 36.1 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #14", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: Unknown feet

7) Inside diameter of innermost casing: Unknown inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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

9/22/18
Date

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 _____day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~23 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06775 E

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 13.7 sec
Longitude: -104 deg, 20 min, 8.1 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #16", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface) / feet above land surface (circle one)

6) Depth of the well: 60(log)/37.7 TD feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): Unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 9/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~60 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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 PLUGGING PLAN OF OPERATIONS

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: RA 06776 E

Name of well owner: HollyFrontier Navajo Refining LLC

Mailing address: PO Box 159

City: Artesia State: NM Zip code: 88211

Phone number: 575-746-5487 E-mail: scott.denton@hollyfrontier.com

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Talon LPE

New Mexico Well Driller License No.: 1575 Expiration Date: 7/31/2020

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: 32 deg, 51 min, 21.6 sec
Longitude: -104 deg, 19 min, 36.8 sec, WGS84
■ Check if seconds are decimal format.

2) Reason(s) for plugging well:

This plan is for "Test Well #17", one of sixteen wells that were installed between 1977 and 1982 and are no longer in use.

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? Unknown If yes, provide additional detail, including analytical results and/or laboratory report(s):

TDS concentrations in nearby monitoring wells in same water-bearing unit range from approximately 3,000 to 17,000 mg/L, as reported in annual groundwater monitoring reports.

5) Static water level: 6 to 10 feet (below land surface / feet above land surface (circle one)

6) Depth of the well: 30 feet

7) Inside diameter of innermost casing: 8 inches.

8) Casing material: steel

9) The well was constructed with:

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

☒ a well screen or perforated pipe, state the screened interval(s): unknown

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? Unknown If yes, please describe:

12) Has all pumping equipment and associated piping been removed from the well? N/A 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:

Lean cement grout will be placed in the boring from the bottom up using a tremie pipe.

2) Will well head be cut-off below land surface after plugging? Yes - if the casing cannot be pulled

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: 1.6-2 gallons (per well)

4) Type of Cement proposed: Portland cement

5) Proposed cement grout mix: 5 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

7) Grout additives requested, and percent by dry weight relative to cement:

25 lbs High Yield Bentonite to 470 lbs Portland cement

8) Additional notes and calculations:

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

As stated in Section IV.2, the well was installed for monitoring purposes, but has not been used for monitoring since the mid-1980's. Updated monitoring wells were installed in the mid-1980's and data on the shallow groundwater quality is reported to NMED and OCD on an annual basis.

VIII. SIGNATURE:

I, Scott Denton, 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: 09/28/18

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 _____ day of _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

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)			0
Bottom of proposed interval of grout placement (ft bgl)			TD of well (~30 ft)
Theoretical volume of grout required per interval (gallons)			1.6-2
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			5
Mixed on-site or batch-mixed and delivered?			Mix on-site
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

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)			

ATTACHMENT B
COPIES OF OSE RECORDS

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06143 X2	1	1	1	12	17S	26E	561505	3635542*

x

Driller License: 675 **Driller Company:** H & W ENTERPRISES

Driller Name:

Drill Start Date: 06/16/1977 **Drill Finish Date:** 06/16/1977 **Plug Date:**

Log File Date: 09/19/1977 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 9 GPM

Casing Size: **Depth Well:** 20 feet **Depth Water:** 0 feet

x

Casing Perforations:	Top	Bottom
	3	19

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262445 **Transaction Desc:** RA 06143 X2 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
09/19/1977	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X2	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X2		561505	3635542*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WEL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 60 FT FROM WEST BOUNDARY, 180 FT FROM NORTH BOUNDARY OF SECTION 12. THIS WELL IS REFERRED TO AS WELL NO. 1

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X3	1	1	1	12	17S	26E	561505	3635542*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262470 **Transaction Desc:** RA 06143 X3 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X3	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X3		561505	3635542*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 60 FT FROM THE WEST BOUNDARY AND 190 FT FROM THE NORTH BOUNDARY OF SECTION 12. THIS WELL IS REFERRED TO AS WELL NUMBER 2.

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/15/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143	3	2	1	12	17S	26E	561909	3635345*

Driller License: 675 **Driller Company:** H & W ENTERPRISES

Driller Name:

Drill Start Date:	06/17/1977	**Drill Finish Date:**	06/17/1977	**Plug Date:**	
Log File Date:	01/16/1978	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	8.00	**Depth Well:**	20 feet	**Depth Water:**	

Casing Perforations:	Top	Bottom
	3	19

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262477 **Transaction Desc:** RA 06143 **File Date:** 06/14/1977

Primary Status: CAN Cancelled Permit
Secondary Status: FIN Finalized
Person Assigned: *******
Applicant: NAVAJO REFINING CO.

Events

Date	Type	Description	Comment	Processed By
06/14/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
07/01/1978	FCN	Finalize Cancel of permit		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143		561909	3635345*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

THIS WELL IS TO BE USED FOR OBSERVATION OF WATER LEVELS AND WATER QUALITY IN CONNECTION WITH THE WASTE WATER DISPOSAL PITS OF THE COMPANY.

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X4	3	2	1	12	17S	26E	561909	3635345*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262474 **Transaction Desc:** RA 06143 X4 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X4	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X4		561909	3635345*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GROUNDWATER ONLY AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. THE AMOUNT OF WATER USED WILL BE ONLY A FEW GALONS PER MONTH.

LOCATION IS 1700 FEET FROM THE WEST BOUNDARY, 730 FEET FROM THE NORTH BOUNDARY OF SECTION 12. OBSERVATION WELL IS REFERRED TO AS TEST WELL # 4

Conditions

1A	Depth of the well shall not exceed the thickness of the valley fill.
B	The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
C1	A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).
6	The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1977
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06143 X5	1	3	4	01	17S	26E	562310	3635952*

Driller License: 675 **Driller Company:** H & W ENTERPRISES

Driller Name:

Drill Start Date:	06/18/1977	**Drill Finish Date:**	06/18/1977	**Plug Date:**	
Log File Date:	06/20/1977	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	0 GPM
Casing Size:		**Depth Well:**	21 feet	**Depth Water:**	0 feet

Casing Perforations:	Top	Bottom
	3	20

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262436 **Transaction Desc:** RA 06143 X5 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
06/20/1977	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X5	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X5		562310	3635952*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER ONLY AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 950 FT FROM THE SOUTH BOUNDARY, 2300 FT FROM THE EAST BOUNDARY OF SECTION 1. THIS WELL IS REFERRED TO AS OBSER. #5.

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X6	1	3	4	01	17S	26E	562310	3635952*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262407 **Transaction Desc:** RA 06143 X6 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X6	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X6		562310	3635952*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER ONLY AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES.LOCATION IS 940 FT FROM NORTH BOUNDARY, 2300 FT FROM THE WEST BOUNDARY OF SECTION. THIS WELL IS REFERRED TO AS OBSERVATION WELL NUMBER 6

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06143 X7	2	4	4	01	17S	26E	562914	3635954*

x

Driller License:	675	**Driller Company:**	H & W ENTERPRISES		
Driller Name:	H AND W ENTERRISES				
Drill Start Date:	06/20/1977	**Drill Finish Date:**	06/20/1977	**Plug Date:**	
Log File Date:	08/31/1977	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	0 GPM
Casing Size:		**Depth Well:**	22 feet	**Depth Water:**	

x

Casing Perforations:	**Top**	**Bottom**
	3	21

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262405 **Transaction Desc:** RA 06143 X7 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
08/31/1977	LOG	Well Log Received		*******
08/31/1977	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X7	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X7		562914	3635954*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER ONLY AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 560 FT FROM SOUTH BOUNDARY, 350 FT FROM EAST BOUNDARY OF SECTION 1. THIS WELL IS REFERRED TO AS OBSERVATION WELL # 7

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X83	2	4	4	01	17S	26E	562914	3635954*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262400 **Transaction Desc:** RA 06143 X83 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X83	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X83		562914	3635954*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER ONLY AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 450 FT FROM THE SOUTH BOUNDARY, 350 FT FROM THE EAST BOUNDARY OF SECTION 1. THIS WELL IS REFERRED TO AS OBSERVATION WELL #8

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06143 X9	4	2	2	01	17S	26E	562908	3636966*

x

Driller License: 675 **Driller Company:** H & W ENTERPRISES

Driller Name:

Drill Start Date: 06/21/1977 **Drill Finish Date:** 06/21/1977 **Plug Date:**

Log File Date: 08/31/1977 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** 21 feet **Depth Water:**

x

Casing Perforations:	Top	Bottom
	3	20

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262385 **Transaction Desc:** RA 06143 X9 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
08/31/1977	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X9	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X9		562908	3636966*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 500 FT FROM NORTH BOUNDARY, 340 FT FROM THE EAST BOUNDARY OF SECTION 12. THIS WELL IS REFERRED TO AS OBSERVATION WELL # 9

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X10	4	2	2	12	17S	26E	562917	3635350*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262383 **Transaction Desc:** RA 06143 X10 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X10	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X10		562917	3635350*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 500 FT FROM NORTH BOUNDARY, 240 FT FROM EAST BOUNDARY OF SECTION 12. THIS WELL IS REFERRED TO AS OBSERVATION WELL NUMBER 10

Conditions

1A	Depth of the well shall not exceed the thickness of the valley fill.
B	The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
C1	A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).
6	The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1977
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X11	4	3	2	12	17S	26E	562516	3634943*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262360 **Transaction Desc:** RA 06143 X11 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X11	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X11		562516	3634943*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC USE. LOCATION IS 1120 FT FROM THE NORTH BOUNDARY, 1600 FT FROM FROM THE EAST BOUNDARY OF SECTION 12. THIS WELL IS REFERRED TO AS OBSERVATION WELL #12

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

C1 A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).

6 The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06143 X12	4	4	2	12	17S	26E	562920	3634946*

x

Driller License: 675 **Driller Company:** H & W ENTERPRISES

Driller Name:

Drill Start Date: 06/22/1977 **Drill Finish Date:** 06/22/1977 **Plug Date:**

Log File Date: 08/31/1977 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** 19 feet **Depth Water:**

x

Casing Perforations:	Top	Bottom
	3	18

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262352 **Transaction Desc:** RA 06143 X12 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
08/31/1977	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X12	0	0		

****Point of Diversion**

RA 06143 X12		562920	3634946*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION 1120 FT FROM THE NORTH BOUNDARY 1500 FT FROM THE EAST BOUNDARY OF SECTION 12 THIS WELL IS REFERED TO AS OBSERVATION WELL # 12.

1. DIAMETER OF WELL NOT TO EXCEED 8 INCHES. 2. AT THE END OF THE TEST PERIOD THE WELL SHALL BE PLUGGED. 3. APPLICATION APPROVED FOR OBSERVATION AND WATER TESTING PURPOSES ONLY.

Conditions

1A	Depth of the well shall not exceed the thickness of the valley fill.
B	The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
C1	A complete and properly executed Well Record on the form provided by the State Engineer shall be filed not later than ten (10) days after completion of the well. Test data shall be filed not later than ten (10) days after completion of the test(s).
6	The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978

Action of the State Engineer

State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X13	4	4	1	12	17S	26E	562112	3634940*

x

Driller License: 675 **Driller Company:** H & W ENTERPRISES

Driller Name:

Drill Start Date: 06/23/1977 **Drill Finish Date:** 06/23/1977 **Plug Date:**

Log File Date: 08/31/1977 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** 21 feet **Depth Water:**

x

Casing Perforations:	Top	Bottom
	3	20

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262350 **Transaction Desc:** RA 06143 X13 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******
08/31/1977	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X13	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X13		562112	3634940*

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Remarks

THIS WELL IS FOR OBSERVATION OF GOUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES.LOCATION IS 1280 FEET FROM NORTH BOUNDARY, 2430 FEET FROM WEST BOUNDARY OF SEC. 12. THIS WELL IS REFERRED TO AS OBSERVATION WELL #13

Conditions

1A	Depth of the well shall not exceed the thickness of the valley fill.
4	No water shall be appropriated and beneficially used under this permit.
B	The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
C	Driller's well record must be filed with the State Engineer within 10 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	RA 06143 X14	4	4	1	12	17S	26E	562112	3634940*

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 262322 **Transaction Desc:** RA 06143 X14 **File Date:** 06/15/1977

Primary Status: PMT Permit
Secondary Status: APR Approved
Person Assigned: *******
Applicant: NAVAJO REFINING COMPANY

Events

Date	Type	Description	Comment	Processed By
06/15/1977	APP	Application Received		*******
06/15/1977	FTN	Finalize non-published Trans.		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06143 X14	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06143 X14		562112	3634940*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

THIS WELL IS FOR OBSERVATION OF GROUND WATER AND WILL NOT BE USED FOR IRRIGATION OR DOMESTIC PURPOSES. LOCATION IS 1280 FEET FROM NORTH BOUNDARY AND 2530 FEET FROM EAST BOUNDARY OF SECTION 12.

1. DIAMETER OF WELL NOT TO EXCEED 8 INCHES. 2. APPLICATION APPROVED FOR OBSERVATION AND WATER TESTING PURPOSES ONLY. 3.

Conditions

1A Depth of the well shall not exceed the thickness of the valley fill.

C Driller's well record must be filed with the State Engineer within 10 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.

4 No water shall be appropriated and beneficially used under this permit.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 06/15/1977
PCW Due Date: 06/30/1978
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06775 E	2	1		12	17S	26E	562010	3635446*

x

Driller License: 406 **Driller Company:** TIDWELL, CLYDE J.

Driller Name:

Drill Start Date: 03/21/1981 **Drill Finish Date:** 03/29/1981 **Plug Date:**

Log File Date: 04/06/1981 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 8.63 **Depth Well:** 60 feet **Depth Water:** 10 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	10	25	Sandstone/Gravel/Conglomerate
	28	35	Sandstone/Gravel/Conglomerate

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 251076 **Transaction Desc:** RA 06775 E **File Date:** 03/17/1981

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING CO

Events

Date	Type	Description	Comment	Processed By
03/17/1981	APP	Application Received		*******
03/19/1981	FTN	Finalize non-published Trans.		*******
04/06/1981	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06775 E	0	0		EXP EXPLORATION

****Point of Diversion**

RA 06775 E		562010	3635446*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

Observation well to determine thickness of aquifer at this point and quality of water therein. DIAMETER OF WELL NOT TO EXCEED 8 INCHES. APPLICATION APPROVED FOR OBSERVATION AND WAQTER TESTING PURPOSES ONLY. WELL DRILLER SHALL SUBMIT

LOGS OF ALL HOLES DRILLED. AT THE END OF THE TEST PERIOD THE WELL SHALL BE PLUGGED.

Conditions

1A	Depth of the well shall not exceed the thickness of the valley fill.
4	No water shall be appropriated and beneficially used under this permit.
B	The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 03/19/1981
PCW Due Date: 03/31/1982
State Engineer:

New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	RA 06776 E			2	12	17S	26E	562618	3635245*

Driller License:	406	**Driller Company:**	TIDWELL, CLYDE J.		
Driller Name:					
Drill Start Date:	03/29/1981	**Drill Finish Date:**	03/29/1981	**Plug Date:**	
Log File Date:	04/06/1981	**PCW Rcv Date:**		**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	8.62	**Depth Well:**	30 feet	**Depth Water:**	10 feet

Water Bearing Stratifications:	Top	Bottom	Description
	10	28	Sandstone/Gravel/Conglomerate

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Transaction Summary

EXPL Permit To Explore

Transaction Number: 251092 **Transaction Desc:** RA 06776 E **File Date:** 03/17/1981

Primary Status: PMT Permit
Secondary Status: LOG Well Log Received
Person Assigned: *******
Applicant: NAVAJO REFINING CO.

Events

Date	Type	Description	Comment	Processed By
03/17/1981	APP	Application Received		*******
03/19/1981	FTN	Finalize non-published Trans.		*******
04/06/1981	LOG	Well Log Received		*******
04/06/1981	LOG	Well Log Received		*******

Water Right Information

WR File Nbr	Acres	Diversion	Consumptive	Purpose of Use
RA 06776 E	0	0		OBS OBSERVATION

****Point of Diversion**

RA 06776 E		562618	3635245*

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Remarks

OBSERVATION WELL TO DETERMINE THICKNESS OF AQUIFER AT THIS POINT AND QUALITY OF WATER THEREIN. DIAMETER OF WELL NOT TO EXCEED 8 INCHES. APPLICATION APPROVED FOR OBSERVATION AND WATER TESTING PURPOSES ONLY.

Conditions

1A	Depth of the well shall not exceed the thickness of the valley fill.
6	The well shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 10 days.
B	The well shall be drilled by a driller licensed in the State of New Mexico in accordance with Section 72-12-12 New Mexico Statutes Annotated.
C	Driller's well record must be filed with the State Engineer within 10 days after the well is drilled or driven. Well record forms will be provided by the State Engineer upon request.
4	No water shall be appropriated and beneficially used under this permit.

Action of the State Engineer

**** See Image For Any Additional Conditions of Approval ****

Approval Code: A - Approved
Action Date: 03/19/1981
PCW Due Date: 03/31/1982
State Engineer:

6/29/18 3:06 PM

TRANSACTION
SUMMARY