



WATER-RIGHT DOCKET

Theodore Roosevelt National Park

Docket No: 10

PAINTED CANYON OVERLOOK WELL

Preliminary Docket Information

00-00-0000: water right record

WATER RIGHT RECORD

Park: THRO

Docket Number:
Federal #10

IDENTIFICATION NO: THRO, W, 3 5, 140, 100, A, F, 1 0,

DITCH/WATER SYSTEM: Painted Canyon Overlook

SOURCE OF SUPPLY: Well

LOCATION: SE $\frac{1}{4}$ Sec. 35, T140N, R100W

WATER RIGHT:

Appropriator: United States of America, National Park Service

Application/Permit Number:

Certificate Record Number:

Date of Priority:

Quantity of Water:

Purpose:

Irrigated Land Description:

SUMMARY OF STATUS: This is a Federal water right consisting of a well

Well drilled in July, 1973.

MRN

L54(MWR)PSW
THRO/USGS

October 11, 1973

RECEIVED
NATIONAL PARK SERVICE
WASHINGTON OFFICE
OCT 17 4 13 PM '73
M 10/30
BOS

Memorandum

To: Superintendent, Theodore Roosevelt NMP
From: Associate Regional Director, Professional Support, MWRO
Subject: Water analysis - Painted Canyon Overlook, THRO

Enclosed is a letter and chemical analysis of the water at Painted Canyon Overlook submitted by the U.S. Geological Survey. A final completion report will follow. I think we have obtained the best water available in the area. Please note that hydrogen sulfide exists in the water. They suggest venting the cistern to release this gas. Some provision will have to be made in the final pressure system to eliminate the hydrogen sulfide; this may be a problem.

(S20) John Kawamoto

John Kawamoto

Enclosure

cc:

DSC-TMW w/enc

WASO-PNH w/enc

Butt Mitchell, USPHS



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Water Resources Division
Bismarck, ND 58501

RK 10/10

October 4, 1973

Mr. Richard Ketcham
U.S. National Park Service, Midwest Region
1709 Jackson Street
Omaha, NB 68102

Dear Mr. Ketcham:

Enclosed for your information is a copy of the water analysis from the Park Service well drilled last summer at Medora, North Dakota. The water is usable, and total dissolved solids, sulfate, and fluoride are lower than in the other wells sampled last summer. However, the water from the drilled well contains hydrogen sulfide. You were mailed copies of the analyses from the other wells.

In your telephone conversation you stated that the Park Service was considering temporarily pumping water to the cistern at the rest stop. You may want to consider venting the cistern to eliminate hydrogen sulfide from the well water.

Sincerely,

M G Croft

M. G. Croft
Hydrologist
enc.
MGC:llr

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION, SALT LAKE CITY, UTAH

SLC LAB SAMPLE ID = 211102 SLC LAB RECORD NO. = 2970

WATER QUALITY ANALYSIS DATE 730624

STATION ID
211102

140-101-350AD

STATE CODE LOCATION 38
COUNTY CODE 007
PROJECT CODE ND4000
AGENCY CODE
MAILING ADDRESS
BISMARCK, N. D.

REGIN END TIME TYPE GEOLOGIC NO. OF
DATE DATE 1400 2 UNIT DEIR SOURCE
730725 47 GROUND WATER

NAT'L PARK SERVICE WELL, PAINTED CANYON OVER LOOK, WELL DEPTH 1871'

ALUMINUM DISSOLVED	DETR. DELETED	ARSENIC DISSOLVED	UG/L	2
BARIUM DISSOLVED	0	BORON DISSOLVED	UG/L	1100
CHROMIUM DISSOLVED	0	COPPER DISSOLVED	UG/L	1
COLOR	50	CONDUCTIVITY	UG/L	1590
COPPER DISSOLVED	7	CYANIDE	MG/L	0.00
RESIDUE DIS 180C	1050	IRON DISSOLVED	UG/L	90
LEAD DISSOLVED	4	LITHIUM DISSOLVED	UG/L	60
MANGANESE DISSOLVED	10	NICKEL DISSOLVED	UG/L	4
PH	8.7	SILICA DISSOLVED	MG/L	15
STRONTIUM DISSOLVED	70	WATER TEMP (DEG C)	UG/L	28.0
ZINC DISSOLVED	10	CADMIUM DISSOLVED	UG/L	1
SELENIUM DISSOLVED	0	MOLYBDENUM DISSOLVED	UG/L	2
ANTHRACENE DISSOLVED	2.3	PHOSPHORUS DIS AS P	MG/L	0.50
SILVER DISSOLVED	0	PERYLLIUM DISSOLVED	UG/L	0
MERCURY DISSOLVED	0.0	ALK. TOT (AS CaCO3)	MG/L	682
HARDNESS TOTAL	5	HARDNESS NONCARB	MG/L	0
SIL	79	SODIUM PERCENT	99	
RESIDUE DIS CALC SUM	1040	RESIDUE DIS TON/AFT		1.43

WATER QUALITY ANALYSIS CONTINUED

DATE 730824

STATION ID	REGIN DATE	END DATE	TIME	TYPE	SAMPLE ID	RECORD NO.
211102	730725		1400	2	211102	2970

MAJOR IONS

CATIONS
(MG/L)ANIONS
(MG/L)CATIONS
(MEQ/L)

CALCIUM DISS
MAGNESIUM DISS
POTASSIUM DISS
SODIUM DISS

1.5
0.4
1.5
420

BICARBONATE
CARBONATE
CHLORIDE DISS
FLUORIDE DISS
SULFATE DISS
NO2+NO3 AS N DIS

746
42
67
3.1
120
0.05

0.075
0.033
0.039
18.27

TOTALS

18.4161

PERCENT DIFF

COST = 155.70
SUM OF THE CO:
COST WGT FACT:
STANDARD ANAL

CORRECTIONS SHOULD BE SUBMITTED TO THE WRD CENTRAL LAB,
SALT LAKE CITY UTAH, WITHIN 15 DAYS OF THE DATE OF THE
ANALYSIS. INDICATE SAMPLE IDENTIFICATION NO. AND THE RECORD
NO. WITH RESPONSE.

THIS DATA HAS RECEIVED CENTRAL LABORATORY QUALITY CONTROL CHECKS

	CATIONS (MEQ/L)	ANIONS (MEQ/L)
Ca	0.075	12.227 ^{#CO₃}
Mg	0.033	1.400 ^{CO₃}
Na	0.039	1.891 ^{Cl}
	18.270	0.164 ^F
		2.499 ^{SO₄}
		0.004 ^{NO₂ + NO₃}
TOTALS	18.4161	18.1820

PERCENT DIFFERENCE = 0.64

COST = 155.70
 SUM OF THE COST FACTORS = 5.1899
 COST WGT FACTOR = 1.00
 STANDARD ANALYSIS COST = 30.00

146
 42
 57
 3.1
 120
 0.05

1. LAB,
 OF THE
 THE RECORD

CONTROL CHECKS

Other Supporting Information

AUG 13 1973

L54(MWR)PSW
THRO/Cont

Memorandum

To: Chief, Finance and Control, MWR
Attention: Finance Officer

From: Supervisory Hydraulic Engineer, MWR

Subject: Drilling of a test water well at Theodore Roosevelt NHP

Attached is a copy of the final payment to Frederickson's Inc. for the drilling of a test water well at Painted Canyon Overlook, Theodore Roosevelt NHP. At the completion of the project, Frederickson's Inc. was asked to install a sub-surface discharge, not included in the contract, by purchase order. He did so. Also attached is a copy of Purchase Order No. PX-6000-4-0126 which was issued to cover this work. We suggest the financing be done as follows:

Funds obligated for Contract No. CX-6000-3-0063	\$37,100.00
Final payment to liquidate Contract	<u>34,973.25</u>
Unliquidated balance to be returned to Water Resources Studies Account 6042-414	2,126.75
Liquidate Purchase Order No. PX-6000-4-0126	675.00
Unobligated funds to remain in Water Resources Studies Account 6042-414	<u>\$ 1,451.75</u>

We suggest the unobligated funds balance of \$1,451.75 remain in the Water Resources Studies Account 6042-414 as preliminary drilling of a test well at Hans Flat, Canyonlands NP indicates that the money will probably be needed to liquidate this contract in Utah.

(Sgd.) Richard W. Ketcham

Richard W. Ketcham

Enclosures

cc:
WASO-PNH
MWR-Budget
MWR-Programs
Supt, THRO

RWKetcham:pc 8-9-73

Form 10-194
(Rev. 7-60)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

THEODORE ROOSEVELT NMP

(Park)

Check One:

Monthly
Estimate☐Final
Estimate☒

UNIT PRICE CONTRACT

ESTIMATE NO. 1	FOR (Period) May 9, 1973 - July 30, 1973	DATE August 8, 1973
CONTRACT NO. CX-6000-3-0063	COMPLETION DATE October 1, 1973	EXTENDED DATE none
CONTRACTOR Frederickson's Inc.		ORIGINAL CONTRACT \$ 28,425.00
PROJECT Drilling of a test well		CHANGE ORDERS* \$ 8,675.00
LOCATION Painted Canyon Overlook		TOTAL CONTRACT \$ 37,100.00

ITEM NO.	CONTRACT QUANTITY	DESCRIPTION	QUANTITY TO DATE	UNIT PRICE	AMOUNT TO DATE
1	Lump Sum	Moving equipment to and from well site	1	\$ 5000.00	\$ 5,000.00
2	1	Moving equipment from site to site	none	100.00	-0-
3	500	Lineal feet of bore 8 5/8" in diameter, surface to 500 ft.	500	5.00	2,500.00
4	500	Lineal feet of bore 8 5/8" in diameter, 500 to 1000 ft.	500	4.00	2,000.00
5	500	Lineal feet of bore 8 5/8" in diameter, 1000 to 1500 ft.	500	4.00	2,000.00
6	500	Lineal feet of bore 8 5/8" in diameter, 1500 to 1928 ft.	428	4.00	1,712.00
7	2000	Lineal feet furnishing and installing 7" I.D. casing.	1801	3.75	6,753.75
8	40	Hours developing well.	35	55.00	1,925.00
9	50	Hours pumping test at 50 gpm maximum	24	30.00	720.00
10	20	Feet of reaming hole to 24" from 0' to 20' & placing concrete around casing.	0	50.00	-0-

Form 10-194
(Rev. 9/60)UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

THEODORE ROOSEVELT NMP

(Park)

Check One:

Monthly
Estimate☐Final
Estimate☒

UNIT PRICE CONTRACT

ESTIMATE NO. 1 (cont.)		FOR (Period) May 9, 1973 - July 30, 1973		DATE August 8, 1973	
CONTRACT NO. CX-6000-3-0063		COMPLETION DATE October 1, 1973		EXTENDED DATE none	
CONTRACTOR Frederickson's Inc.				ORIGINAL CONTRACT \$ 28,425.00	
PROJECT Drilling of a test well				CHANGE ORDER* \$ 8,675.00	
LOCATION Painted Canyon Overlook				TOTAL CONTRACT \$ 37,100.00	
ITEM NO.	CONTRACT QUANTITY	DESCRIPTION	QUANTITY TO DATE	UNIT PRICE	AMOUNT TO DATE
11	40	Lineal feet - Furnish and install 4" well screen with gravel pack designed in accordance with the formation encountered.	70	\$ 50.00	\$ 3,500.00
12	25	Lineal feet, plugging of abandoned exploratory bore.	0	10.00	-0-
13	5	Days standby time of evaluation of well data.	2.5	75.00	187.50
Total items 1 through 13.					\$ 26,298.25
CHANGE ORDER NO. 1					
1	-	Drill out 8 5/8" hole to 11 inches 1800 feet at \$2.00 per ft.	1800	\$ 2.00	\$ 3,600.00
2	-	Cement 7" casing in place for 1800 ft.	1		4,235.00
3	-	Standby time to allow cement to set up	1		840.00
Total Change Order No. 1					\$ 8,675.00
Total Contract Cost					\$ 34,973.25

RECOMMENDED (Project Supervisor)		SUMMARY	
Supervisory Hydraulic Engineer, MWRO		TOTAL TO DATE \$ 34,973.25	
APPROVED (Contracting Officer)		LESS RETAINED AMOUNT..... -0-	
DATE		NET..... 34,973.25	
		LESS PREVIOUS PAYMENTS..... -0-	
		LESS LIQUIDATED DAMAGES..... -0-	
		DUE THIS ESTIMATE..... 34,973.25	
		% COMPLETED TO DATE: 100%	

*Show Breakdown on Reverse

(See Reverse for Distribution)

FORM 10-111
(APRIL 1964)

PURCHASE ORDER

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
1702 Jackson Street
Omaha, Nebraska 68102

Midwest Region
(ISSUING OFFICE)

REQUISITION NO.

THIS NUMBER MUST APPEAR ON
ALL PACKAGES AND PAPERS
RELATING TO THIS ORDER

DATE OF ORDER

August 8, 1973

ORDER NUMBER

PX 6000 4 0126

ACCOUNTING CLASSIFICATION

6042- 414-H-3200-4-0675.00

VENDOR'S NAME AND ADDRESS

Frederickson's Inc.
P. O. Box 231
Hitchinson, Minnesota 55350

SHIP TO: (Consignee and Address:)

Superintendent
Theodore Roosevelt National Memorial Park
Hidora, North Dakota 58045

CONTRACT NO.

CX 6000 3 0063

DISCOUNT TERMS

-

SHIP VIA

-

DELIVERY: F.O.B.

TIME FOR DELIVERY

GOVT. B/L NO.

SHIPPING POINT

Confirming Order

ITEM NO.	ARTICLES OR SERVICES	QUANTITY ORDERED	UNIT	UNIT PRICE	AMOUNT
	MONITOR FITLESS ADAPTER - Model GPS 810D0401 in accordance with requirements and terms of Contract CX 6000 3 0063 Fitless Adapter Unit \$475.00 Installation 200.00 NOTE: This is a confirming order - Do not duplicate..... Your Invoice H15292 - dated 8-3-73	One	Total		\$675.00
		TOTAL			\$675.00

SIGNATURE

NAME AND TITLE

J. Stanley Fillmore, Acting General Suppl
Officer PURCHASING OFFICE

5. MEMORANDUM COPIES

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Dick Ketcham through John Kawamoto

DATE: July 16, 1973

FROM : Property Management

SUBJECT: Well Job - Theodore Roosevelt NMP

John - Dick:

Had a phone call from Mac Croft from THRO and he advised that they are pumping at 125 GPM and the water looks good - as good as it is down at the National Park Service area. They are pumping at a 500' level.

He has a question he needs answered PMQ. He wanted Ralph Dierks if Dick isn't around to tell him which way the pitless adapter is to face - "which way do you want the water to come" -

Please have Ralph give him a buzz. Thank you

Joe

Pitless Adapter to point W.E. direction toward the west end of the east parking area. where the comfort station ~~water~~ pump house is to be located. RYD 7/6 4:00 PM.

told Joe of decision. 7/6 4:15 PM RYD



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

Joe, Riha, Procurement and Property
Management Officer, MWRO

June 26, 1973

Supvr. Hydraulic Engineer, Professional Support

Painted Canyon Test Well, Theodore Roosevelt NMP

FINDINGS OF FACT

On June 18, 1973 the well being drilled at Painted Canyon Overlook, (Contract No. 6000-3-0063) was brought in at 1928 feet. From all indications the well will produce a substantial amount of water. Mr. Max Croft USGS representative in charge of the drilling recommended that we grout the casing the full 1800 feet. The reasoning being that the static head from Foxhill formation will rise up the casing thus entering the other aquifers that have a poor quality of water. This could lead to contamination of the well. The Schlumberger log shows a radio active seam at 1790 feet. This is another reason Mr. Croft feels that the well should be grouted the full length.

We discussed the above condition with the contractor and he agrees to ream the drilled hole of 8 5/8 inches to 11 inches and cementing the seven inch casing in place to a depth of 1800 feet. After the reaming and cementing is accomplished the driller will have to re-enter the hole and remove the plug at the bottom of the casing and recondition the well before he continues to develop and pump test. The contractors unit prices are reasonable and fair. To have another contractor come in would not be feasible.

In drilling the well a much thicker seam of sand was encountered at the water level than was anticipated. Mr. Croft recommends that item No. 11, four inch well screen, be increased from 40 lineal feet to 70 lineal feet in order to assure adequate water for the Painted Canyon Development site in the event that the Foxhills water hole is lowered

by excessive well drilling in this vicinity.

It is therefore considered that the grouting of this casing and the increased well screen are in the best interest of the Government.

Supervisory Hydraulic Engineer,
Professional Support

cc:
Supt., THRO

RWKetcham:bh:pc 6/26/73

THRO cont

Burke

Call from John Lancaster, Clark Crane and Tom Harrington, Theodore Roosevelt

They called to find out first if I had any extra money. Before I could really find out what for they were into a long explanation:

They had tried to get in touch with Ketcham and were informed he is in Canyonlands and not capable of being contacted. Ketcham left the Painted Canyon Well in the hands of the USGS man who is supervising the project and is recommending the following:

1. They have hit a better well than they originally thought they would have. They have hit 115' of sand on the bottom. They feel a safer screen should be put in to compensate for this.
2. In drilling down they went down 1800' before hit sand and on the way down passed through several aquifers of lesser quality water. USGS is concerned that in use of the desired aquifer the lesser quality aquifers will mix in with the other aquifers. Grouting around the casing would prevent this. They would propose grouting around the casing through solid rock.
3. The pilot well has been drilled to an 8". They propose drilling to 11".
4. They would pressure grout around the casing with 2" cement wall all around the casing. Additional drain will provide safer situation on the bottom of the hold.

Additional funds required:

- | | |
|---|---------|
| 1. Cement 1800' materials and services | \$4,304 |
| 2. Hole reaming process \$2 a foot | 3,600 |
| 3. Standby time 24 hours | 840 |
| 4. Additional screen 30' ~~At \$50~~ @ \$50 a foot | 1,500 * |

*Contract called for drilling 2,000'. Only had to drill 1,928' so may be credit here that would take care of cost of additional screening.

All above said they had to have an answer on this this morning because they are holding up the well driller. Since Ketcham was not reachable and line was busy so could not transfer to Professional Support I took down information and said I would expedite with Kawamoto.

grout rock portion - about 50'

3,600

Memorandum

To: Director, Midwest Region
From: Associate Director, Professional Support
Subject: Daily Report - June 20, 1973

Phone call from THRO regarding Painted Canyon. Well contractor successfully reached good water; however, due to other factors, additional monies required to properly assure good water supply (concrete wall around casing). Contacted Ketcham at Canyonlands and he worked things out with park. Change order will be forthcoming. In the meantime, we did locate sufficient monies from Water Resources account and reserve to cover additional cost (approximately \$9,000).

Phone call to bring Vance Kaminski back from Canyonlands, where he was on a Professional Support assistance matter to the park, in order for him to be in WASO for Fort Scott hearing.

Phone call from Haraden at Yellowstone regarding archeological survey of proposed Lake Fishing Bridge sewage industrial system. Checked with Mintzmyer and then turned matter over to Midwest Archeological Center for followup with Haraden.

Phone call from Don Herne, Curecanti, regarding the well drilling at Curecanti. They are going to proceed so had him get in touch with Ketcham to work out necessary details. Incidentally, Ketcham is at Canyonlands in connection with Hans Flat well drilling project.

John Kawamoto

Associate Director
Professional Support

cc:
Deputy Dir.
✓ Assoc. Dir., PS
Assist. Dir., Adm.
Assist. Dir., Oper.
Assist. Dir., Coop. Act.
Oper. Eval.

SPECIAL PROVISIONS
TO SPECIFICATIONS FOR A
DRILLED WATER WELL

PAINTED CANYON OVERLOOK, THEODORE ROOSEVELT NATIONAL PARK

SP-01 LOCATION OF WORK

The location of this project is at Painted Canyon Overlook, adjacent Interstate 94 about 8 miles east of Medora. The hole will be located in the SE 1/4 of Section 35, Township 140 North, Range 101 West, as delineated on the accompanying map. It will be accurately located on the ground by the Contracting Officer prior to the commencement of drilling.

SP-02 MEASUREMENTS AND PAYMENTS DEFINED

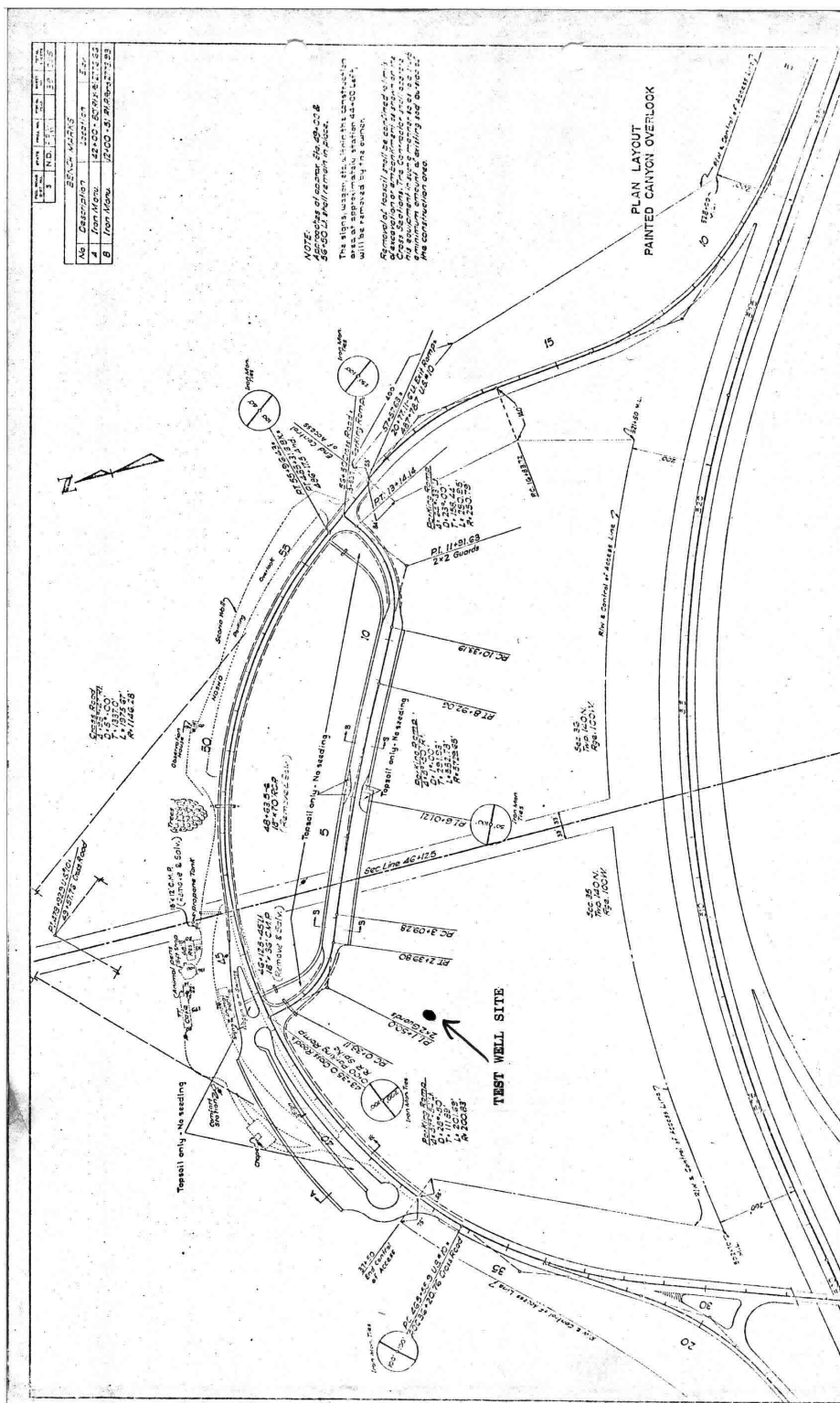
Measurements will be as defined for the respective items of work and include the furnishing of all necessary materials unless otherwise designated.

Payments will be at the applicable unit price quoted in the Contract Bid Schedule and will constitute full compensation for all labor, materials, and equipment necessary for the respective items of work complete and in place.

All items of work are provided for in the Contract Bid Schedule. It is the Contractor's responsibility to include in his bid prices compensation for work not otherwise specifically listed in the Contract Bid Schedule but required to accomplish the objectives of this construction specification.

Individual items are as follows:

- a. Bid Schedule Item 1: Moving equipment to and from well site--
This item includes all costs necessary to bring the drill rig, accessory equipment, supplies, materials, tools and labor to the job site; to prepare all necessary facilities for commencing of construction; and at the completion remove all the Contractor's equipment, tools, materials, etc., not included in the construction and to clean up site and leave it in a condition satisfactory to the Contracting Officer.
- b. Bid Schedule Item 2: Moving equipment from site to site--
If there is a need for more than one hole, this item includes all costs necessary to move the drill rig, accessory equipment, supplies, materials and tools from one site to another. This move will be within a 1/4 mile radius and will include the cleaning up of sites not specifically mentioned in Item 1.



Docket Information

Number of Documents in Docket 18

Documents Dated from 6/20/1973 to 7/30/1982

Docket Compiled: 6/21/2011