

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

FOR APPROVED
OMB NO. 1004-0137
Expires: December 31, 1991

5. LEASE DESIGNATION AND SERIAL NO.

NM 15295

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.

C K Federal No. 3

9. API WELL NO.

30-015-32947

10. FIELD AND POOL, OR WILDCAT

White City; Penn (Gas)

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 8; T24S; R26E

12. COUNTY OR PARISH
Eddy

13. STATE
NM

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. EMVR. ☐ Other _____

2. NAME OF OPERATOR

Gruy Petroleum Management Co.

3. ADDRESS AND TELEPHONE NO.

P O Box 140907 Irving Tx. 75014-0907

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 1225' FNL & 1400' FEL

At top prod. interval reported below 1583' FNL & 1677' FWL

At total depth 1643' FNL & 1445' FWL

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

09-13-03

16. DATE T.D. REACHED

10-18-03

17. DATE COMPL. (Ready to prod.)

12-11-03

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*

3480' GR

19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD

12406 MD 12006 TVD

21. PLUG BACK T.D., MD & TVD

12,006' MD 11,846' TVD

22. IF MULTIPLE COMPL., HOW MANY*

→

23. INTERVALS DRILLED BY

→

ROTARY TOOLS

All

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

White City; Penn (Gas) 11624' - 11641' MD

White City Penn (Gas) 11261' - 11277' TVD

25. WAS DIRECTIONAL SURVEY MADE

Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Spaced Neutron & DLL Microguard

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT FULLED
13 - 3/8" J-55	54.5 #	308'	17-1/2"	300 sx Prem Plus circ 45 sx to pit	
9-5/8" NS-110	40#	1928'	12-1/4"	1200 sx Inter C/Prem/Thix TOC 1008'	
				1" w 378 sx Perm + circ 10 sx to pit	
5 1/2"P-110N-80	17 #	12406'	8 3/4"	1850 sx Super H/ Perm TOC 810	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 7/8"	11,481'	11,481'

31. PERFORATION RECORD (Interval, size and number)

12,054 - 12,066 6 SPF CIBP @ 12,035 w 35' cement

11,752 - 11,770 6SPF rbp @ 11725' w 1 sx sand

11,624 - 11,641 6SPF

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
12-11-03		Flowing				Producing	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
12-16-03	24	22/64	→	-0-	3040	-0-	N/A
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
1600	-0-	→	-0-	3040	-0-	NA	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

NM C-122, Electric logs and Inclination Summary

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Zeno Farris

TITLE

Manager Operations Administration

DATE

January 20, 2004

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

38.

GEOLOGIC MARKERS

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Mottow	11482'	12200'				

Submit in duplicate to
appropriate district office.
See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RECEIVED Form C-122
Revised October, 1999
FEB 06 2004

OCD-ARTESIA

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator GRUY PET. MANAGEMENT				Lease or Unit Name CK FED			
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/16/03	Well No. 3
Completion Date 12/10/03		Total Depth 12406		Plug Back TD 11725		Elevation 3483GL	Unit Ltr - Sec - TWP - Rge F 8 24S 26E
Csg. Size 5 1/2	Wt. 17	d 4.892	Set At 12406	Perforations: From: 11624 To: 11641		County EDDY	
Tbg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 11551	Perforations: From: To:		Pool	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 11551		Formation MORROW	
Producing Thru TUBING		Reservoir Temp. 188	Mean Annual Temp. 60	Baro. Press.-P _a 13.2		Connection SALES	
L 11551	H 11551	Gg 0.581	%CO ₂ 1.032	%N ₂ 0.641	%H ₂ S	Prover	Meter Run 4.026
							Taps FLG

FLOW DATA				TUBING DATA				CASING DATA				Duration of Flow
No.	Prover Line Size	Orifice x Size	Press p.s.i.g.	Diff. h _w	Temp.	Press p.s.i.g.	Temp.	Press p.s.i.g.	Temp.			
SI						3594						
1		4.026 X 2.375	205	2.8	87	3517					1 HR	
2		4.026 X 2.375	211	5.6	88	3434					1 HR	
3		4.026 X 2.375	218	11.7	78	3273					1 HR	
4		4.026 X 2.375	224	26.5	49	2928					1 HR	
5												

RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress Factor F _{pv}	Rate of Flow Q. Mcfd
1							915
2	TOTAL	FLOW	METER				1309
3							1936
4							3040
5							

No.	P _r	Temp. R	T _r	Z	Gas Liquid Hydrocarbon Ratio	N/A	Mcft bbl.
1					A.P. I. Gravity of Liquid Hydrocarbons	N/A	Deg.
2					Specific Gravity Separator Gas	0.581	XXXXXXX
3	TOTAL	FLOW	METER		Specific Gravity Flowing Fluid	XXXXXX	
4					Critical Pressure	675	P.S.I.A.
5					Critical Temperature	346	R.

P ₁ 3607.2		P ₂ 13011.9	
No.	P _t ²	P _w	P _w ²
1		3531.9	12474.5
2		3450.8	11907.8
3		3294.3	10852.4
4		2962.8	8778.5
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{3.074}{1.942}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5.905$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5.905$

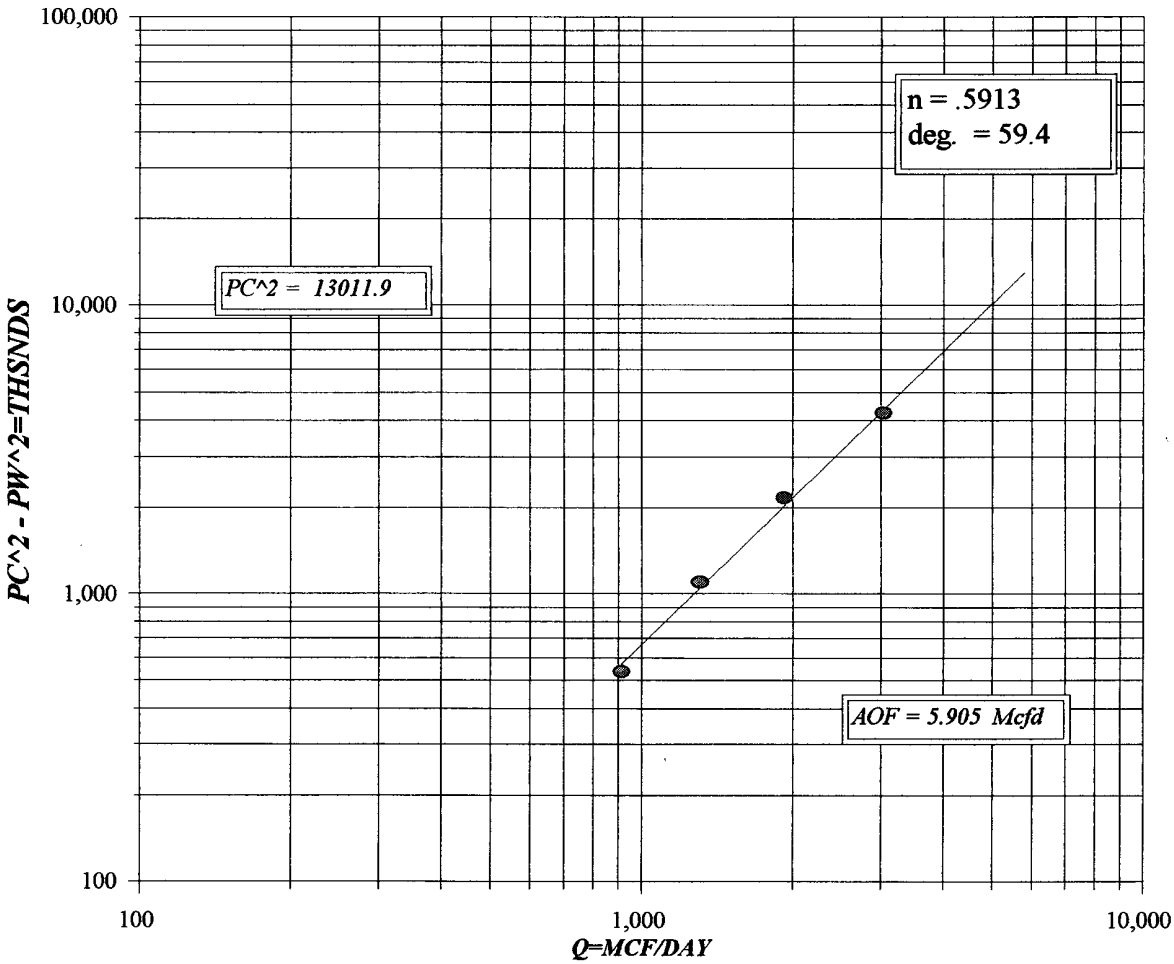
Absolute Open Flow	5.905	Mcfd @ 15.025	Angle of Slope (°)	59.4	Slope n:	0.5913
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Remarks: *** NO LIQUID MADE DURING TEST.**

Approved By Division:	Conducted By: PRO WELL TESTING	Calculated By: MERV BUECKER	Checked By: BM
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GRUY PET. MANAGEMENT

CK FED #3



COMPANY : GRUY PET. MANAGEMENT CO		LEASE : CK FED		WELL NO. : 3		Pc = 3607.2		Pc2 = 13011.9	
UNIT : F		SECTION : 8		TOWNSHIP : 24S		Pt2 = 12462.3		Pw = 3531.9	
L : 11551		H : 11551		L/H : 1		11883.2		3450.8	
%CO2 : 1.032		%N2 : 0.641		H2S : 0.581		10799.1		3294.3	
d : 2.441		Fr : 0.010763		GH : 8197.0		8650.7		2962.8	
				DATE : 12/16/03					
				RANGE : 26E					
VOL 1 : 915		PSIA 1 : 3530.2		RESV. TEMP : 188.0		Pc2-Pw2 = 537.4		Pw2 = 12474.5	
VOL 2 : 1306		PSIA 2 : 3447.2				1104.1		11907.8	
VOL 3 : 1936		PSIA 3 : 3286.2		SHUT-IN PRESS : 3607.2		2159.5		10852.4	
VOL 4 : 3040		PSIA 4 : 2941.2				4233.4		8778.5	
		PCR : 675				n = 0.591			
		TCR : 346				Pc2/(Pc2-Pw2) =		24.212	
LINE		RATE 1		RATE 2		RATE 3		RATE 4	
		1ST		2ND		1ST		2ND	
1 QM		0.915		1.306		1.936		3.040	
2 TW		534		534		534		534	
3 Ts		648.0		648.0		648.0		648.0	
4 T		591.0		591.0		591.0		591.0	
PR (est)		5.23		5.11		4.87		4.36	
5 Z(est)		0.875		0.871		0.864		0.853	
6 TZ		516.9		514.7		510.8		515.6	
7 GH/TZ		15.857		15.282		15.376		15.899	
8 eS		1.812		1.774		1.780		1.815	
9 Ie-S		0.448		0.436		0.452		0.449	
10 Pt		3530.2		3447.2		3286.2		2941.2	
11 Pt2 /1000		12462.3		11883.2		10799.1		8650.7	
12 Fr		0.010763		0.010763		0.010763		0.010763	
13 Fc=FrTZ		5.564		5.773		5.497		5.425	
14 FcQm		5.09		7.24		10.64		16.49	
15 L/H(FcQm)2		25.9		52.3		113.3		272.0	
16 Fw		11.616756		23.53778		51.220249		124.17552	
17 Pw2		12473.9		11907.8		10850.3		8774.8	
18 Ps2		22607.4		21634.7		19806.4		16147.2	
19 Ps		4754.7		4651.3		4450.4		4018.4	
20 P		4142.5		4049.3		3868.3		3479.8	
21 Pr		6.14		5.96		5.73		5.16	
22 Tr		1.71		1.71		1.71		1.71	
23 Z		0.908		0.901		0.892		0.872	
								FORM C122-D	



Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
P.O. Box 791
Hobbs, New Mexico 88241

SAMPLE:
IDENTIFICATION: CK Federal #3
COMPANY: Gruy Petroleum
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 12/16/03 2:00 pm
ANALYSIS DATE: 12/17/03
PRESSURE - PSIG 200
SAMPLE TEMP. °F 80
ATMOS. TEMP. °F 50

GAS (XX) LIQUID ()
SAMPLED BY: Rice
ANALYSIS BY: Vickie Biggs

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	0.641	
Carbon Dioxide (CO2)	1.032	
Methane (C1)	95.820	
Ethane (C2)	2.139	0.571
Propane (C3)	0.276	0.076
I-Butane (IC4)	0.038	0.012
N-Butane (NC4)	0.054	0.017
I-Pentane (IC5)	0.000	0.000
N-Pentane (NC5)	0.000	0.000
Hexane Plus (C6+)	0.000	0.000
	100.000	0.676
BTU/CU.FT. - DRY	1016	MOLECULAR WT. 16.8216
AT 14.650 DRY	1012	
AT 14.650 WET	995	
AT 14.73 DRY	1018	
AT 14.73 WET	1000	
SPECIFIC GRAVITY -		
CALCULATED	0.581	
MEASURED		

DISTRICT I

P.O. Box 1530, Hobbs, NM 88241-1530

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102

Revised February 10, 1991

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

DISTRICT II

P.O. Box 90, Artesia, NM 88211-0090

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

P.O. Box 2088, Santa Fe, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name White City; Penn
Property Code	Property Name C K FEDERAL	Well Number 3
OGRI No. 162683	Operator Name GRUY PETROLEUM MANAGEMENT CO.	Elevation 3483'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	8	24-S	26-E		1225	NORTH	1400	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	8	24-S	26-E		1643	North	1445	West	Eddy

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640	Y		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

		OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. <u>Zeno Farris</u> Signature Zeno Farris Printed Name Mgr. Operations Admin Title January 29, 2004 Date
RECEIVED FEB 06 2004 OGD-ARTESIA		SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. February 28, 2003 Date Surveyed Signature & Seal of Professional Surveyor <u>Ronald J. Eidson</u> 3/4/03 02.11.0198 Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641

GEODETTIC COORDINATES

SPC NME
NAD 1927Y= 449589.6
X= 506903.1LAT.= 32°14'09.73"N
LONG.= 104°18'39.63"W

1780'

CK Federal 1

1780'

OPERATOR: GRUY PETROLEUM
WELL/LEASE: C & K FED. 3
COUNTY: EDDY

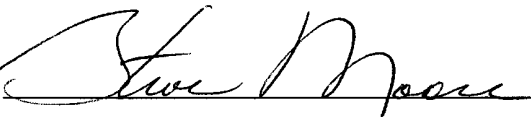
080-0019

STATE OF NEW MEXICO
DEVIATION REPORT

268	1/4
705	3/4
1,156	1
1,548	1/2
1,935	3/4
2,430	1 1/2
2,781	1 1/4
3,258	1
3,757	1/2
4,053	1/2

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NOV 2 - 2003
MAILROOM

RECEIVED
FEB 06 2004
OCD-ARTESIA

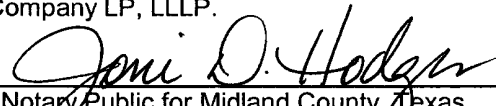
By: 

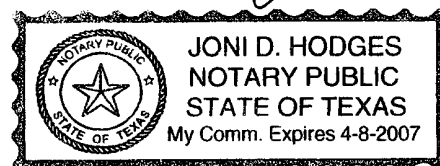
STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on this 29th day of October, 2003, by Steve Moore on behalf of Patterson-UTI Drilling Company LP, LLLP.

My Commission Expires: 4/08/2007


Notary Public for Midland County, Texas





**Gruy Petroleum Management Co.
New Mexico
Eddy County
CK Federal # 3 - Surveys**

Sperry-Sun

Survey Report

21 October, 2003

Survey Ref: svy6869

RECEIVED
FEB 06 2004
OCD-ARTESIA

HALLIBURTON

Survey Report for CK Federal # 3 - Surveys

Measured Depth (ft)	Incl. (Deg)	Azim. (Deg)	Station TVD (ft)	Coordinates Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Comment
0.00	0.000	0.000	0.00	0.00 N	0.00 E	0.00		
100.00	0.240	105.870	100.00	0.06 S	0.20 E	-0.19	0.24	
200.00	0.440	154.190	200.00	0.46 S	0.57 E	-0.48	0.33	
300.00	0.440	154.220	300.00	1.15 S	0.90 E	-0.69	0.00	
400.00	0.470	148.260	399.99	1.85 S	1.29 E	-0.95	0.06	
500.00	0.670	130.260	499.99	2.57 S	1.95 E	-1.48	0.27	
600.00	0.720	127.080	599.98	3.33 S	2.90 E	-2.28	0.06	
700.00	1.000	118.480	699.97	4.12 S	4.16 E	-3.39	0.31	
800.00	1.020	111.360	799.95	4.86 S	5.76 E	-4.84	0.13	
900.00	0.560	110.150	899.94	5.36 S	7.05 E	-6.02	0.46	
1000.00	0.390	173.370	999.94	5.86 S	7.55 E	-6.42	0.52	
1100.00	0.440	190.170	1099.94	6.58 S	7.52 E	-6.27	0.13	
1200.00	0.390	194.510	1199.94	7.29 S	7.36 E	-6.00	0.06	
1300.00	1.070	170.710	1299.93	8.54 S	7.43 E	-5.85	0.73	
1400.00	1.480	162.620	1399.90	10.69 S	7.97 E	-6.01	0.45	
1500.00	1.550	159.110	1499.87	13.19 S	8.83 E	-6.43	0.12	
1600.00	1.690	153.990	1599.83	15.78 S	9.96 E	-7.10	0.20	
1700.00	1.710	150.730	1699.78	18.40 S	11.34 E	-8.00	0.10	
1800.00	1.710	148.430	1799.74	20.98 S	12.85 E	-9.04	0.07	
1900.00	1.690	149.250	1899.69	23.51 S	14.39 E	-10.12	0.03	
2000.00	1.330	153.730	1999.66	25.82 S	15.65 E	-10.97	0.38	
2100.00	1.370	155.690	2099.63	27.95 S	16.66 E	-11.59	0.06	
2200.00	1.350	157.910	2199.60	30.13 S	17.59 E	-12.14	0.06	
2300.00	1.350	158.600	2299.58	32.32 S	18.47 E	-12.62	0.02	
2400.00	1.270	140.900	2399.55	34.28 S	19.60 E	-13.40	0.41	
2500.00	1.380	139.010	2499.52	36.05 S	21.08 E	-14.56	0.12	
2600.00	1.340	137.460	2599.50	37.82 S	22.66 E	-15.81	0.05	
2700.00	1.340	138.100	2699.47	39.55 S	24.24 E	-17.06	0.01	
2800.00	1.270	139.660	2799.44	41.27 S	25.73 E	-18.24	0.08	
2900.00	1.270	142.150	2899.42	42.98 S	27.13 E	-19.32	0.06	
3000.00	1.210	141.070	2999.39	44.68 S	28.48 E	-20.35	0.06	
3100.00	1.140	143.900	3099.37	46.31 S	29.72 E	-21.30	0.09	
3200.00	1.170	145.270	3199.35	47.95 S	30.89 E	-22.17	0.04	
3300.00	1.140	143.910	3299.33	49.59 S	32.06 E	-23.04	0.04	
3400.00	1.130	141.210	3399.31	51.16 S	33.26 E	-23.95	0.05	
3500.00	1.080	135.860	3499.29	52.61 S	34.54 E	-24.96	0.11	
3600.00	0.850	132.760	3599.28	53.79 S	35.74 E	-25.94	0.24	
3700.00	0.690	141.810	3699.27	54.77 S	36.66 E	-26.67	0.20	
3800.00	0.810	135.750	3799.26	55.75 S	37.52 E	-27.36	0.14	
3900.00	0.910	144.310	3899.25	56.90 S	38.48 E	-28.10	0.16	
4000.00	0.900	143.770	3999.24	58.18 S	39.41 E	-28.79	0.01	
4053.00	0.950	143.770	4052.23	58.87 S	39.91 E	-29.17	0.09	
4067.00	1.000	144.700	4066.23	59.06 S	40.05 E	-29.28	0.37	1st MWD Survey @ 4067' md
4099.00	1.100	179.200	4098.22	59.59 S	40.22 E	-29.35	1.97	
4131.00	1.100	217.600	4130.22	60.14 S	40.03 E	-29.07	2.26	

Survey Report for CK Federal # 3 - Surveys

Measured Depth (ft)	Incl. (Deg)	Azim. (Deg)	Station TVD (ft)	Coordinates Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Comment
4163.00	1.700	232.400	4162.21	60.68 S	39.47 E	-28.43	2.17	
4194.00	2.300	242.400	4193.19	61.25 S	38.55 E	-27.43	2.23	
4226.00	3.100	249.000	4225.15	61.85 S	37.18 E	-25.97	2.68	
4258.00	4.100	252.600	4257.09	62.51 S	35.28 E	-23.98	3.20	
4290.00	5.200	253.900	4288.99	63.25 S	32.79 E	-21.41	3.45	
4322.00	6.200	255.400	4320.83	64.09 S	29.73 E	-18.24	3.16	
4353.00	7.100	256.800	4351.62	64.95 S	26.24 E	-14.66	2.95	
4385.00	7.800	256.000	4383.35	65.92 S	22.21 E	-10.52	2.21	
4417.00	8.800	255.200	4415.01	67.07 S	17.74 E	-5.92	3.15	
4448.00	9.900	254.500	4445.60	68.39 S	12.87 E	-0.90	3.57	
4480.00	11.000	254.300	4477.07	69.95 S	7.28 E	4.88	3.44	
4512.00	11.900	254.600	4508.43	71.66 S	1.16 E	11.20	2.82	
4544.00	12.800	255.800	4539.69	73.40 S	5.45 W	18.02	2.92	
4575.00	13.500	255.400	4569.88	75.16 S	12.28 W	25.05	2.28	
4607.00	14.400	256.900	4600.93	77.00 S	19.77 W	32.74	3.03	
4639.00	15.200	257.600	4631.87	78.80 S	27.75 W	40.91	2.56	
4671.00	15.800	257.500	4662.71	80.65 S	36.10 W	49.45	1.88	
4703.00	16.200	258.000	4693.47	82.52 S	44.72 W	58.26	1.32	
4735.00	16.800	258.200	4724.15	84.39 S	53.61 W	67.35	1.88	
4766.00	17.300	257.500	4753.79	86.31 S	62.50 W	76.43	1.74	
4798.00	17.700	256.500	4784.31	88.47 S	71.87 W	86.04	1.56	
4830.00	18.000	256.800	4814.77	90.74 S	81.41 W	95.83	0.98	
4861.00	18.600	258.200	4844.20	92.84 S	90.92 W	105.55	2.40	
4893.00	19.000	258.700	4874.49	94.90 S	101.02 W	115.86	1.35	
4925.00	19.300	259.300	4904.72	96.91 S	111.33 W	126.36	1.12	
4957.00	19.800	259.800	4934.88	98.85 S	121.86 W	137.06	1.65	
4989.00	20.000	260.800	4964.96	100.68 S	132.59 W	147.95	1.23	
5020.00	19.900	262.600	4994.10	102.21 S	143.06 W	158.53	2.01	
5052.00	20.200	262.000	5024.17	103.68 S	153.93 W	169.49	1.14	
5084.00	19.900	261.900	5054.23	105.22 S	164.79 W	180.45	0.94	
5116.00	20.000	260.200	5084.31	106.92 S	175.58 W	191.37	1.84	
5147.00	19.500	259.000	5113.48	108.81 S	185.88 W	201.84	2.08	
5179.00	19.200	259.100	5143.67	110.82 S	196.29 W	212.44	0.94	
5211.00	19.200	258.100	5173.89	112.90 S	206.60 W	222.96	1.03	
5243.00	19.500	258.000	5204.09	115.09 S	216.98 W	233.56	0.94	
5274.00	19.800	258.600	5233.28	117.21 S	227.18 W	243.98	1.17	
5306.00	20.000	260.500	5263.37	119.18 S	237.90 W	254.87	2.12	
5338.00	19.900	262.900	5293.45	120.76 S	248.70 W	265.78	2.58	
5369.00	20.100	263.600	5322.58	122.01 S	259.23 W	276.37	1.01	
5401.00	19.300	262.800	5352.71	123.28 S	269.94 W	287.14	2.64	
5433.00	18.500	263.400	5382.98	124.53 S	280.23 W	297.49	2.57	
5465.00	17.700	263.100	5413.40	125.70 S	290.10 W	307.42	2.52	
5496.00	16.900	259.800	5443.00	127.06 S	299.21 W	316.63	4.08	
5528.00	16.400	257.900	5473.66	128.83 S	308.21 W	325.79	2.31	
5560.00	16.800	255.100	5504.32	130.97 S	317.09 W	334.92	2.79	

Survey Report for CK Federal # 3 - Surveys

Measured Depth (ft)	Incl. (Deg)	Azim. (Deg)	Station Coordinates			Vertical Section (ft)	Dogleg Rate (°/100ft)	Comment
TVD (ft)	Northings (ft)	Eastings (ft)						
5591.00	16.600	254.000	5534.02	133.34 S	325.68 W	343.78	1.21	
5623.00	16.500	255.400	5564.69	135.74 S	334.47 W	352.86	1.28	
5655.00	16.800	255.400	5595.35	138.06 S	343.34 W	361.99	0.94	
5687.00	16.500	256.200	5626.01	140.30 S	352.23 W	371.14	1.18	
5719.00	16.100	256.100	5656.72	142.45 S	360.95 W	380.10	1.25	
5753.00	16.200	254.700	5689.38	144.84 S	370.10 W	389.52	1.18	
5785.00	16.300	254.700	5720.10	147.20 S	378.74 W	398.44	0.31	
5817.00	16.400	257.500	5750.81	149.36 S	387.48 W	407.42	2.48	
5849.00	16.900	259.000	5781.46	151.23 S	396.46 W	416.58	2.06	
5880.00	18.000	257.600	5811.04	153.12 S	405.56 W	425.88	3.80	
5912.00	18.700	258.300	5841.41	155.22 S	415.41 W	435.94	2.29	
5944.00	18.500	260.500	5871.74	157.10 S	425.44 W	446.15	2.28	
5976.00	18.400	262.000	5902.09	158.64 S	435.45 W	456.27	1.52	
6007.00	18.300	262.700	5931.52	159.94 S	445.12 W	466.02	0.78	
6039.00	18.200	261.500	5961.91	161.32 S	455.05 W	476.04	1.22	
6071.00	18.100	262.700	5992.32	162.69 S	464.92 W	486.00	1.21	
6103.00	18.100	263.000	6022.73	163.92 S	474.79 W	495.93	0.29	
6135.00	18.800	264.900	6053.09	164.99 S	484.86 W	506.03	2.88	
6166.00	18.900	262.100	6082.43	166.12 S	494.81 W	516.03	2.94	
6198.00	18.500	261.900	6112.74	167.55 S	504.97 W	526.28	1.27	
6230.00	18.500	261.800	6143.08	168.99 S	515.02 W	536.43	0.10	
6262.00	18.500	264.100	6173.43	170.23 S	525.09 W	546.57	2.28	
6293.00	18.800	262.300	6202.80	171.41 S	534.93 W	556.47	2.09	
6325.00	19.100	261.200	6233.07	172.90 S	545.22 W	566.85	1.46	
6357.00	18.800	262.500	6263.33	174.38 S	555.50 W	577.24	1.62	
6388.00	18.800	262.500	6292.68	175.68 S	565.41 W	587.22	0.00	
6420.00	18.500	264.600	6323.00	176.83 S	575.58 W	597.43	2.30	
6451.00	18.100	263.500	6352.43	177.84 S	585.26 W	607.14	1.70	
6483.00	18.200	264.700	6382.84	178.86 S	595.17 W	617.09	1.21	
6515.00	18.500	265.600	6413.21	179.71 S	605.21 W	627.12	1.29	
6547.00	19.000	263.700	6443.52	180.67 S	615.45 W	637.37	2.47	
6579.00	18.700	264.700	6473.80	181.72 S	625.73 W	647.69	1.38	
6610.00	18.500	266.100	6503.18	182.51 S	635.59 W	657.53	1.58	
6642.00	18.800	265.000	6533.50	183.31 S	645.79 W	667.72	1.44	
6674.00	18.700	266.400	6563.80	184.08 S	656.05 W	677.95	1.44	
6706.00	18.300	265.500	6594.15	184.80 S	666.18 W	688.05	1.54	
6738.00	18.800	265.800	6624.49	185.57 S	676.33 W	698.18	1.59	
6769.00	18.700	265.800	6653.84	186.30 S	686.27 W	708.10	0.32	
6801.00	18.200	266.200	6684.20	187.00 S	696.37 W	718.17	1.61	
6833.00	18.600	266.700	6714.56	187.63 S	706.45 W	728.21	1.34	
6865.00	19.200	267.800	6744.83	188.13 S	716.80 W	738.49	2.18	
6896.00	19.300	272.200	6774.10	188.12 S	727.02 W	748.55	4.69	
6928.00	19.100	266.700	6804.33	188.22 S	737.53 W	758.93	5.68	
6960.00	19.200	266.200	6834.55	188.87 S	748.00 W	769.36	0.60	
6992.00	18.300	266.200	6864.86	189.55 S	758.27 W	779.59	2.81	

Survey Report for CK Federal # 3 - Surveys

Measured Depth (ft)	Incl. (Deg)	Azim. (Deg)	Station Coordinates			Vertical Section (ft)	Dogleg Rate (°/100ft)	Comment
TVD (ft)	Northings (ft)	Eastings (ft)						
7023.00	17.900	263.800	6894.32	190.39 S	767.86 W	789.18	2.73	
7055.00	17.800	263.500	6924.78	191.48 S	777.61 W	798.97	0.42	
7087.00	17.900	262.500	6955.24	192.67 S	787.34 W	808.77	1.01	
7119.00	17.700	262.100	6985.71	193.98 S	797.04 W	818.54	0.73	
7150.00	17.700	263.300	7015.24	195.18 S	806.39 W	827.95	1.18	
7182.00	17.700	264.100	7045.73	196.25 S	816.06 W	837.66	0.76	
7214.00	17.600	263.200	7076.22	197.32 S	825.70 W	847.35	0.91	
7246.00	17.600	262.600	7106.72	198.52 S	835.30 W	857.01	0.57	
7278.00	17.800	263.300	7137.21	199.71 S	844.96 W	866.73	0.91	
7309.00	17.800	261.200	7166.72	200.99 S	854.34 W	876.20	2.07	
7341.00	17.600	261.500	7197.21	202.45 S	863.96 W	885.92	0.69	
7373.00	17.500	262.300	7227.72	203.81 S	873.52 W	895.57	0.82	
7405.00	18.000	262.800	7258.20	205.08 S	883.19 W	905.31	1.63	
7437.00	18.600	263.000	7288.58	206.32 S	893.16 W	915.35	1.89	
7468.00	18.600	261.600	7317.96	207.64 S	902.96 W	925.23	1.44	
7500.00	18.500	262.500	7348.30	209.05 S	913.04 W	935.40	0.95	
7532.00	18.200	262.800	7378.67	210.34 S	923.03 W	945.47	0.98	
7564.00	18.200	264.800	7409.07	211.42 S	932.97 W	955.44	1.95	
7595.00	18.600	264.200	7438.48	212.36 S	942.71 W	965.19	1.43	
7627.00	18.800	264.100	7468.80	213.40 S	952.91 W	975.43	0.63	
7659.00	18.200	264.300	7499.14	214.43 S	963.01 W	985.56	1.89	
7691.00	18.300	265.500	7529.53	215.32 S	972.99 W	995.54	1.22	
7722.00	19.000	265.600	7558.90	216.09 S	982.88 W	1005.41	2.26	
7754.00	19.300	263.700	7589.13	217.07 S	993.33 W	1015.87	2.16	
7786.00	19.300	264.200	7619.34	218.18 S	1003.85 W	1026.42	0.52	
7818.00	19.500	263.200	7649.52	219.35 S	1014.41 W	1037.03	1.21	
7850.00	19.600	263.500	7679.67	220.59 S	1025.05 W	1047.72	0.44	
7881.00	19.400	262.700	7708.90	221.83 S	1035.32 W	1058.06	1.08	
7913.00	18.600	264.000	7739.15	223.04 S	1045.67 W	1068.46	2.83	
7944.00	19.100	264.900	7768.49	224.01 S	1055.63 W	1078.44	1.87	
7976.00	19.300	263.800	7798.71	225.05 S	1066.11 W	1088.94	1.29	
8008.00	19.100	262.600	7828.93	226.29 S	1076.56 W	1099.44	1.38	
8040.00	19.000	262.300	7859.18	227.66 S	1086.91 W	1109.88	0.44	
8071.00	18.900	261.000	7888.50	229.12 S	1096.87 W	1119.94	1.40	
8103.00	18.400	261.700	7918.82	230.66 S	1106.99 W	1130.17	1.71	
8135.00	18.000	262.400	7949.22	232.05 S	1116.88 W	1140.16	1.42	
8184.00	18.700	263.200	7995.72	233.98 S	1132.19 W	1155.57	1.52	
8216.00	19.000	264.500	8026.01	235.09 S	1142.47 W	1165.89	1.61	
8248.00	19.200	263.400	8056.25	236.19 S	1152.88 W	1176.33	1.29	
8280.00	19.600	265.500	8086.43	237.22 S	1163.46 W	1186.93	2.51	
8312.00	19.700	264.100	8116.57	238.19 S	1174.17 W	1197.65	1.50	
8343.00	20.300	265.000	8145.70	239.20 S	1184.73 W	1208.22	2.18	
8375.00	20.000	266.300	8175.74	240.03 S	1195.72 W	1219.19	1.68	
8407.00	19.800	265.900	8205.83	240.77 S	1206.59 W	1230.03	0.76	
8438.00	19.700	266.100	8235.00	241.50 S	1217.04 W	1240.45	0.39	

Survey Report for CK Federal # 3 - Surveys

Measured Depth (ft)	Incl. (Deg)	Azim. (Deg)	Station TVD (ft)	Coordinates Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Comment
8470.00	19.600	266.200	8265.14	242.23 S	1227.77 W	1251.15	0.33	
8502.00	19.600	265.200	8295.29	243.03 S	1238.48 W	1261.83	1.05	
8533.00	19.600	266.500	8324.49	243.78 S	1248.85 W	1272.17	1.41	
8565.00	19.300	266.100	8354.66	244.47 S	1259.48 W	1282.77	1.03	
8597.00	19.000	265.200	8384.89	245.27 S	1269.95 W	1293.21	1.32	
8629.00	18.900	265.100	8415.16	246.15 S	1280.30 W	1303.56	0.33	
8661.00	18.600	265.700	8445.46	246.97 S	1290.55 W	1313.81	1.11	
8724.00	19.200	265.900	8505.06	248.47 S	1310.91 W	1334.11	0.96	
8756.00	19.200	267.000	8535.28	249.12 S	1321.41 W	1344.57	1.13	
8787.00	19.200	265.600	8564.56	249.78 S	1331.58 W	1354.70	1.49	
8819.00	18.800	267.100	8594.82	250.44 S	1341.98 W	1365.06	1.97	
8851.00	18.600	266.700	8625.13	250.99 S	1352.22 W	1375.25	0.74	
8883.00	18.500	268.400	8655.46	251.43 S	1362.39 W	1385.34	1.72	
8914.00	18.400	268.500	8684.87	251.70 S	1372.20 W	1395.05	0.34	
8946.00	18.000	267.100	8715.27	252.08 S	1382.19 W	1404.95	1.85	
8978.00	18.200	268.500	8745.69	252.46 S	1392.12 W	1414.80	1.50	
9010.00	18.500	268.400	8776.06	252.73 S	1402.19 W	1424.77	0.94	
9042.00	18.600	268.500	8806.40	253.01 S	1412.37 W	1434.84	0.33	
9073.00	18.100	267.800	8835.82	253.32 S	1422.12 W	1444.50	1.76	
9105.00	17.500	268.900	8866.29	253.60 S	1431.90 W	1454.18	2.15	
9137.00	16.900	269.700	8896.86	253.72 S	1441.36 W	1463.52	2.02	
9169.00	16.700	269.400	8927.49	253.79 S	1450.61 W	1472.64	0.68	
9201.00	16.600	268.600	8958.15	253.95 S	1459.78 W	1481.70	0.78	
9233.00	16.800	268.800	8988.80	254.16 S	1468.97 W	1490.79	0.65	
9265.00	16.700	266.000	9019.44	254.58 S	1478.18 W	1499.94	2.54	
9297.00	17.000	264.300	9050.07	255.36 S	1487.42 W	1509.18	1.80	
9328.00	16.800	264.200	9079.73	256.27 S	1496.39 W	1518.16	0.65	
9360.00	17.500	264.000	9110.31	257.24 S	1505.77 W	1527.58	2.20	
9392.00	18.000	265.500	9140.78	258.13 S	1515.49 W	1537.30	2.12	
9423.00	18.700	263.400	9170.21	259.08 S	1525.20 W	1547.03	3.11	
9455.00	18.400	262.500	9200.55	260.32 S	1535.30 W	1557.20	1.30	
9487.00	18.000	262.000	9230.95	261.67 S	1545.21 W	1567.18	1.34	
9519.00	18.500	263.500	9261.34	262.93 S	1555.15 W	1577.19	2.14	
9550.00	18.800	262.100	9290.71	264.18 S	1564.98 W	1587.09	1.74	
9582.00	18.500	262.000	9321.03	265.59 S	1575.12 W	1597.32	0.94	
9614.00	18.600	263.500	9351.37	266.88 S	1585.21 W	1607.49	1.52	
9645.00	18.500	263.300	9380.75	268.01 S	1595.01 W	1617.34	0.38	
9677.00	18.600	263.200	9411.09	269.21 S	1605.12 W	1627.50	0.33	
9709.00	18.300	261.900	9441.45	270.52 S	1615.16 W	1637.62	1.59	
9741.00	18.200	263.000	9471.84	271.84 S	1625.10 W	1647.63	1.12	
9773.00	18.700	263.000	9502.19	273.07 S	1635.15 W	1657.74	1.56	
9804.00	18.100	263.300	9531.61	274.24 S	1644.86 W	1667.51	1.96	
9836.00	17.300	262.300	9562.09	275.46 S	1654.51 W	1677.23	2.67	
9868.00	17.600	264.100	9592.62	276.59 S	1664.04 W	1686.81	1.93	
9900.00	17.500	264.800	9623.13	277.52 S	1673.65 W	1696.43	0.73	

Survey Report for CK Federal # 3 - Surveys

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TVD (ft)	Northings (ft)	Eastings (ft)						
9932.00	17.800	264.000	9653.62	278.47 S	1683.30 W	1706.11	1.21	
9963.00	17.600	263.800	9683.16	279.47 S	1692.67 W	1715.51	0.67	
9995.00	17.900	263.800	9713.63	280.53 S	1702.37 W	1725.25	0.94	
10027.00	18.100	263.500	9744.07	281.62 S	1712.20 W	1735.12	0.69	
10058.00	18.200	262.700	9773.53	282.78 S	1721.79 W	1744.76	0.87	
10090.00	18.100	261.400	9803.93	284.16 S	1731.66 W	1754.72	1.30	
10122.00	18.200	261.200	9834.34	285.67 S	1741.51 W	1764.69	0.37	
10154.00	18.700	262.000	9864.70	287.14 S	1751.53 W	1774.81	1.75	
10185.00	18.800	261.700	9894.05	288.56 S	1761.39 W	1784.77	0.45	
10217.00	18.100	263.400	9924.41	289.87 S	1771.43 W	1794.89	2.76	
10249.00	17.900	263.100	9954.84	291.04 S	1781.25 W	1804.76	0.69	
10281.00	18.400	263.100	9985.25	292.23 S	1791.15 W	1814.72	1.56	
10313.00	18.100	263.300	10015.64	293.42 S	1801.10 W	1824.72	0.96	
10345.00	18.400	263.800	10046.03	294.54 S	1811.06 W	1834.72	1.06	
10376.00	18.900	262.700	10075.40	295.71 S	1820.90 W	1844.62	1.97	
10408.00	19.000	261.800	10105.67	297.11 S	1831.20 W	1855.01	0.97	
10440.00	18.700	262.500	10135.95	298.53 S	1841.44 W	1865.34	1.17	
10472.00	17.900	263.400	10166.33	299.76 S	1851.41 W	1875.37	2.65	
10503.00	17.600	263.200	10195.86	300.86 S	1860.80 W	1884.81	0.99	
10535.00	17.100	264.100	10226.40	301.92 S	1870.28 W	1894.33	1.77	
10563.00	17.060	264.010	10253.17	302.77 S	1878.46 W	1902.54	0.17	
10594.00	17.020	261.320	10282.80	303.93 S	1887.47 W	1911.61	2.55	
10626.00	17.050	259.040	10313.40	305.53 S	1896.71 W	1920.98	2.09	
10658.00	17.810	257.550	10343.93	307.48 S	1906.09 W	1930.56	2.75	
10689.00	18.430	258.360	10373.39	309.49 S	1915.52 W	1940.20	2.16	
10721.00	19.670	260.560	10403.64	311.39 S	1925.79 W	1950.64	4.48	
10753.00	19.620	260.730	10433.78	313.14 S	1936.40 W	1961.40	0.24	
10785.00	19.340	261.450	10463.95	314.79 S	1946.94 W	1972.07	1.15	
10817.00	18.690	261.900	10494.20	316.30 S	1957.26 W	1982.49	2.08	
10848.00	17.850	262.720	10523.64	317.60 S	1966.89 W	1992.20	2.83	
10880.00	18.070	262.980	10554.08	318.83 S	1976.68 W	2002.05	0.73	
10912.00	17.890	259.150	10584.52	320.36 S	1986.43 W	2011.93	3.74	
10943.00	18.190	260.900	10613.99	322.03 S	1995.89 W	2021.52	2.00	
10975.00	18.770	260.930	10644.34	323.63 S	2005.90 W	2031.67	1.81	
11007.00	18.670	259.960	10674.65	325.33 S	2016.03 W	2041.94	1.02	
11039.00	18.880	260.690	10704.95	327.06 S	2026.18 W	2052.24	0.98	
11071.00	18.410	260.580	10735.27	328.73 S	2036.28 W	2062.47	1.47	
11102.00	18.170	261.820	10764.70	330.22 S	2045.89 W	2072.19	1.47	
11134.00	18.000	261.440	10795.12	331.66 S	2055.72 W	2082.12	0.65	
11166.00	17.730	262.390	10825.58	333.04 S	2065.44 W	2091.93	1.24	
11198.00	17.720	261.940	10856.06	334.37 S	2075.09 W	2101.67	0.43	
11230.00	17.930	262.000	10886.52	335.74 S	2084.79 W	2111.46	0.66	
11261.00	18.280	261.820	10915.99	337.10 S	2094.33 W	2121.09	1.14	
11293.00	17.670	262.870	10946.43	338.41 S	2104.11 W	2130.95	2.16	
11325.00	17.230	260.410	10976.95	339.80 S	2113.61 W	2140.54	2.68	

Survey Report for CK Federal # 3 - Surveys

Measured Depth (ft)	Incl. (Deg)	Azim. (Deg)	Station TVD (ft)	Coordinates Northings (ft)	Eastings (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Comment
11357.00	17.750	260.240	11007.47	341.42 S	2123.09 W	2150.16	1.63	
11389.00	17.930	259.710	11037.94	343.13 S	2132.74 W	2159.97	0.76	
11421.00	17.670	257.430	11068.40	345.06 S	2142.33 W	2169.74	2.32	
11453.00	17.580	257.600	11098.90	347.16 S	2151.79 W	2179.42	0.32	
11484.00	17.670	257.430	11128.45	349.19 S	2160.95 W	2188.80	0.33	
11516.00	18.110	258.130	11158.90	351.27 S	2170.56 W	2198.62	1.53	
11548.00	18.110	257.430	11189.31	353.37 S	2180.28 W	2208.56	0.68	
11580.00	18.190	259.360	11219.72	355.38 S	2190.04 W	2218.52	1.90	
11612.00	18.020	257.950	11250.14	357.33 S	2199.79 W	2228.46	1.47	
11644.00	18.110	258.130	11280.56	359.39 S	2209.50 W	2238.38	0.33	
11675.00	17.930	257.780	11310.04	361.39 S	2218.88 W	2247.96	0.68	
11707.00	17.930	257.780	11340.49	363.48 S	2228.51 W	2257.81	0.00	
11739.00	17.750	255.840	11370.95	365.71 S	2238.05 W	2267.59	1.94	
11770.00	17.230	254.960	11400.51	368.06 S	2247.07 W	2276.88	1.88	
11802.00	17.060	256.120	11431.09	370.42 S	2256.20 W	2286.28	1.19	
11834.00	17.660	255.650	11461.63	372.75 S	2265.46 W	2295.80	1.93	
11866.00	17.940	255.360	11492.10	375.19 S	2274.93 W	2305.55	0.92	
11897.00	17.770	255.650	11521.61	377.57 S	2284.13 W	2315.03	0.62	
11929.00	17.920	255.290	11552.07	380.03 S	2293.63 W	2324.80	0.58	
11960.00	17.720	256.010	11581.58	382.38 S	2302.82 W	2334.26	0.96	
11992.00	17.930	254.540	11612.05	384.87 S	2312.29 W	2344.02	1.55	
12023.00	18.460	254.210	11641.50	387.48 S	2321.61 W	2353.65	1.74	
12055.00	18.880	254.470	11671.81	390.25 S	2331.47 W	2363.85	1.34	
12086.00	18.130	254.650	11701.21	392.87 S	2340.96 W	2373.64	2.43	
12118.00	17.280	255.350	11731.69	395.39 S	2350.36 W	2383.33	2.74	
12149.00	17.420	255.320	11761.28	397.73 S	2359.30 W	2392.55	0.45	
12181.00	17.740	254.910	11791.79	400.21 S	2368.64 W	2402.17	1.07	
12212.00	17.750	254.570	11821.31	402.70 S	2377.76 W	2411.58	0.34	
12238.00	17.896	255.156	11846.07	404.78 S	2385.44 W	2419.51	0.89	Last MWD Survey @ 12238' md
12244.00	17.930	255.290	11851.78	405.25 S	2387.22 W	2421.34	0.89	
12278.00	17.790	254.900	11884.14	407.93 S	2397.30 W	2431.73	0.54	
12307.00	18.120	255.520	11911.72	410.21 S	2405.94 W	2440.64	1.31	
12338.00	17.610	255.570	11941.23	412.58 S	2415.15 W	2450.12	1.65	
12406.00	17.610	255.570	12006.04	417.71 S	2435.08 W	2470.63	0.00	Projection to TD @ 12406' md

All data is in Feet (US) unless otherwise stated. Directions and coordinates are relative to Grid North. Vertical depths are relative to RKB. Northings and Eastings are relative to Wellhead.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Wellhead and calculated along an Azimuth of 260.080° (Grid).

Coordinate System is NAD27 New Mexico State Planes, Eastern Zone.
Grid Convergence at Surface is -0.002°. Magnetic Convergence at Surface is -8.877° (03-Sep-03)

Based upon Minimum Curvature type calculations, at a Measured Depth of 12406.00ft.,
The Bottom Hole Displacement is 2470.64ft., in the Direction of 260.266° (Grid).

Survey Report for CK Federal # 3 - Surveys

Comments

Measured Depth (ft)	Station Coordinates			Comment
	TVD (ft)	Northings (ft)	Eastings (ft)	
4067.00	4066.23	59.06 S	40.05 E	1st MWD Survey @ 4067' md
12238.00	11846.07	404.78 S	2385.44 W	Last MWD Survey @ 12238' md
12406.00	12006.04	417.71 S	2435.08 W	Projeciton to TD @ 12406' md

New Mexico
Eddy County
Sec. 08-T24S-R26E
CK Federal # 3

Scale: 1 inch = 800ft

Eastings

-2400

-1600

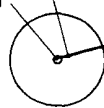
-800

0

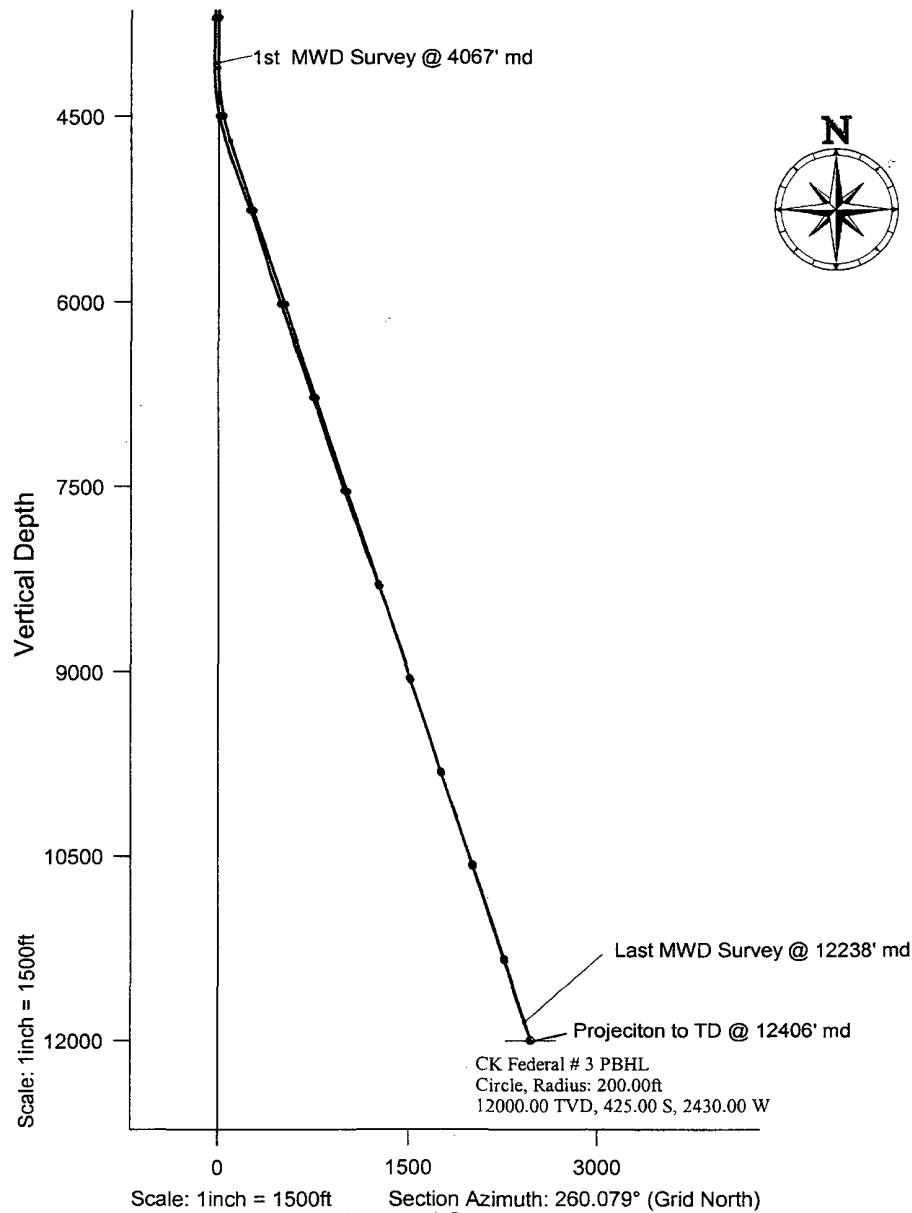
1st MWD Survey @ 4067' md

Last MWD Survey @ 12238' md

Projection to TD @ 12406' md



CK Federal # 3 PBHL
Circle, Radius: 200.00ft
12000.00 TVD, 425.00 S, 2430.00 W

Scale: 1 inch = 800ft
NorthingsPrepared by:
AdminDate/Time:
21 October, 2003 - 8:55

Checked:

Approved: